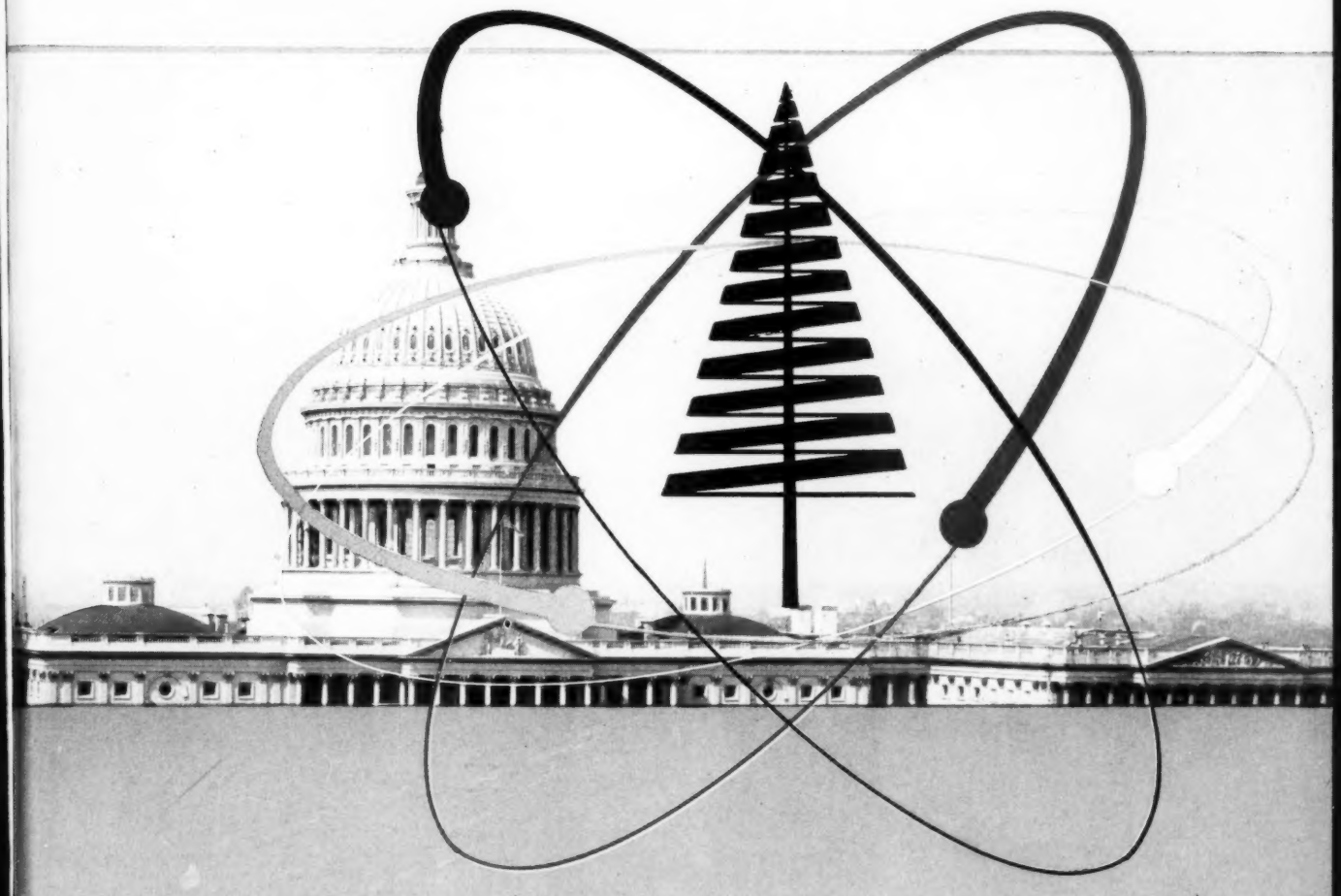
American

FORESTS

NOVEMBER 1953



FOURTH AMERICAN FOREST CONGRESS ISSUE

NEW WAYS TO FIGHT BLAZE! *number 4 in a series*

NEW McCULLOCH PORTABLE PUMP

Supplies Four Lines through Pumper!

Brush on fire! Water pond is located 800 feet away. A portable McCulloch 7 FP pump at the water source supplies the fire truck with 150 gpm through a 2½ inch hose. Firemen use 100 feet of 2½ inch hose wyed into two 50 foot sections, with two ⅜ inch nozzles each delivering 41 gpm at 100 psi; also 5/16 inch nozzles on one inch booster lines each delivering 28.5 gpm at 100 psi. The McCulloch pump easily keeps ahead of this demand (total of 139 gpm at 100 psi).

Model 7 FP McCulloch
CENTRIFUGAL FIRE PUMP

Weighs only 57 lb complete!
Delivers 250 gpm!
Develops pressures over 100 psi!
Primes at 25 ft suction lift!
Delivers fog, stream, or foam!
(all measurements in U.S. gallons)

PERFORMANCE CHART (with 10-foot suction lift)

Discharge Pressure PSI	10	20	30	40	50	60	70	80	90	100
Discharge Hd. Ft. Water	23	46	69	92	115	138	161	184	207	231
U.S. Gal. Per Minute	250	227	197	164	130	101	78	54	38	25

Send for Complete Information Today...

NATIONWIDE SALES AND SERVICE

McCULLOCH

5-3204

McCulloch Motors Corporation, Los Angeles 45, California
Export Dept.: 301 Clay St., San Francisco 11, Calif., U.S.A.
Canadian Distributor: 220 W. First Ave., Vancouver, B.C.
525 First Ave., Quebec, P.Q. • 861 Lansdowne St., Peterboro, Ontario

Quail, near a tree farm in the Pacific Northwest

tree farmers plan for proper land use...

Proper land use is the deciding factor considered by tree farmers when they determine what lands are to be placed under forest management. The land that is selected for growing trees as a recurring crop is predominantly hilly, remote, or is otherwise undesirable for any other use. When surveys show that sections of these areas are more suitable for agriculture than tree farming, it is a company policy to make such lands available for ordinary farming.

The principle of proper land use is pictured above. On rich bottom land released by the forestland owner, the dairy farmer will reap crop after crop each year. On the hills and mountains beyond, the tree farmer also will grow repeated crops . . . trees to be harvested every 80 to 100 years. Young Douglas firs will thrive on the clear-cut sunlit slopes, growing from wind-borne seeds carried from blocks of mature trees left standing as a natural seed source.

In America there are more than 4400 privately owned tree farms, operated on about 28 million acres. All Weyerhaeuser Timber Company operating forestlands are managed as tree farms. *Write us at Box A, Tacoma, Washington for your free copy of our colorful booklet, Tree Farming in the Pacific Northwest.*

For farm and city building, West Coast woods offer the advantages of unusual strength, durability, economy and beauty.

Pacific Northwest mountain regions are more suitable for growing trees than for the production of any other kind of crop.

Wood is one of the nation's most valuable and versatile raw materials. People and industry use wood every day as lumber, pulp and paper, fibers, chemicals and in many other ways. To supply this market, our company is growing trees and manufacturing a variety of forest products.

Weyerhaeuser Timber Company

National opinion surveys indicate that the public does not know about the progress being made in industrial forestry. Weyerhaeuser Timber Company is telling part of the story in a series of national magazine advertisements such as reproduced above. The Company believes that all who are engaged in industrial forest management should tell the facts about tree farming at every opportunity.

WORKING IN THE PACIFIC NORTHWEST TO CREATE A PERMANENT FOREST INDUSTRY

Volume 59
No. 11
November, 1953

American FORESTS

James B. Craig, Editor
Dorothy B. Thompson, Editorial Assistant
Keith R. McCarthy, Assistant Editor
James J. Fisher, Art Director

PUBLISHED BY THE AMERICAN FORESTRY ASSOCIATION

CONTENTS

WASHINGTON LOOKOUT 9
BESLEY SEES '54 AS BANNER YEAR IN FORESTRY 11
CARTOON—A House In the Woods ..... *Gib Crockett* 12
EDITORIAL—It's Time That the "Twain Shall Meet" 13
LIVING LINKS WITH WASHINGTON ..... *E. John Long* 14
HARVESTING TIMBER ON A WILDLIFE REFUGE ..... *Cleveland van Dresser* 18
IS THIS CREEPING SOCIALISM? ..... *Willis M. Baker* 20
WASHINGTON—Conservation Capital of the World ..... *Henry Clepper* 23
TIMBERLINE TREES ..... *Joan Parry* 31
OTHER PEOPLE'S PROBLEMS—OUR OPPORTUNITIES ..... *Albert G. Hall* 32
YOUR SHADE TREES ..... *R. R. Fenska* 35
IT'S THE ANCESTOR THAT MAKES THE TREE ..... *Ernest B. Babcock, J. W. Duffield* 36
THE CHARM OF CHAPMAN HILL ..... *Viola C. White* 39
THE BUDGET LOOKS AT RESOURCES 40
A HOME IS FOR LIVING ..... *Thomas J. Malone* 43
IRON HORSES IN WOOD 44
NAMES IN THE NEWS 47
WHAT'S NEWS ACROSS THE NATION 93

COVER • *Designed by Jackson K. Lambert*

THE AFA

The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

Director of Advertising
Fred E. Hornaday

Production Manager
Geraldine S. Kirkland

Advertising Representatives
Harry W. Brown
333 North Michigan Avenue
Chicago 1, Illinois

Harry Utley
McDonald-Thompson
3727 West 6th Street
Los Angeles 5, California

M. Jeffrey Kaufman
McDonald-Thompson
625 Market Street
San Francisco 5, California

Robert Heidersbach
McDonald-Thompson
Colorado National Bank Building
Denver 2, Colorado

T. Harrison Abney
McDonald-Thompson
1008 Western Avenue
Seattle 4, Washington

AMERICAN FORESTS is published monthly by The American Forestry Association at 919 Seventeenth Street, N. W., Washington, D. C. Subscription price $5 a year. Editors are not responsible for loss or injury of manuscripts and photographs while in their possession or in transit. The Editors are not responsible for views expressed in signed articles. Entered as second-class matter at the Postoffice at Wahington, D. C., under the Act of March 3, 1879. Acceptable for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918. Additional entry at Baltimore, Md., December 29, 1931. Copyright, 1953, by The American Forestry Association.

Letters

Methods and Madness

EDITOR:

I have just finished reading the last copy of AMERICAN FORESTS and I was struck by that article about firebugs (arsonists).

I have a comment to make which I sincerely hope will be looked into.

Several things about the article were news to me—in particular the un-American attitude of judges. Also, I believe that The American Forestry Association makes a big mistake in exposing the methods used by arsonists in setting fires. It's just too damn good and clear an example of how to set fires—that fraction of our population that should be living in Siberia. Maybe a lot of them can't read, but they can see pictures—magazines get laid around, etc.

Also, I have what I believe is a concrete idea of punishment for such people. They should be denied forever the right of aid of any kind: county, state or federal if proved to have set fire or fires. As to getting a conviction—why can't The American Forestry Association get behind the idea and get the large timber owners (especially) to put pressure on Congress to make it a federal offense and mandatory that such punishment be handed out. Believe me a man will think twice before he deprives himself of unemployment insurance, federal old age and state pensions—even county relief. On second offense, a state prison term of about five years to go along with it. . .

If you fellows can't start the ball rolling, who can?

Please let me know what you think. And remember I still think it was a big mistake to expose the *methods* of the firebug.

J. V. Wennerholm
Rodeo, California

(*Editor's Note:* Reader Wennerholm poses an extremely interesting question. Personally, we doubt that many firebugs or potential firebugs peruse *American Forests* or any magazine, for that matter, above the comic book level. On the other hand, there is a grave need to fully acquaint the thinking public with the seriousness of the incendiary problem. Once the public is sufficiently aroused, the attitude of our courts in this matter can be expected to stiffen.)

Preferred Nails

EDITOR:

In Mr. Creighton Peet's article on nails as published in the September issue of AMERICAN FORESTS, a somewhat erroneous statement is made when the author assumes that the "cut nail is still the preferred nail for fastening hardwood flooring."

This was the case until about ten years ago when the hardened, helically threaded Screwtite flooring nail was introduced. For a number of years, the threaded flooring nail has been mass-produced in such quantities that it dwarfs the production of the cut flooring nails. . . . I wish to quote from Bulletin No. 5 of the Virginia Polytechnic Institute Wood Research Laboratory:

In comparison with the cut nails, the lighter Screwtite nails 1) cost almost 30

(*Turn to page* 4)

TROUBLE-FREE POWER FOR A LOGGING CAMP!

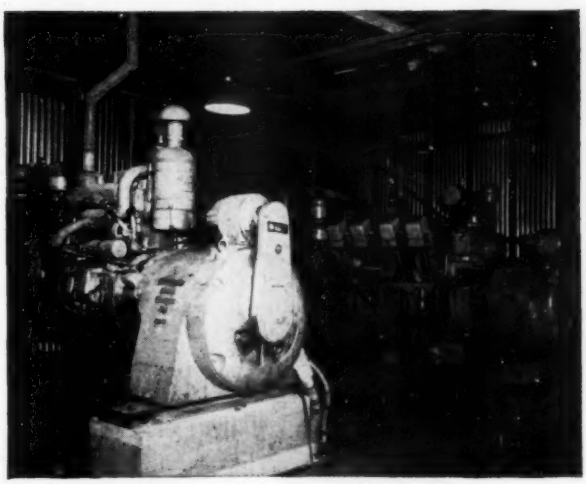
Camp Grisdale, Washington, has a population of 500, with 51 family houses, a 200-man bunk house, cook house with electric ovens, and the offices and shops of the Simpson Logging Co. Nobody's worried about the possibility of power failure. The reasons: two Caterpillar Diesel Electric Sets.

Here's the setup—an ideal one for any remote community. The D17000, a 12-year-old veteran with the last 4 years on a generator and the first 8 years powering a yarder, handles the entire electrical load. It operates 24 hours a day all year long, then gets a thorough inspection. During this inspection period and during routine oil changes, the D8800—a standby unit—takes over and nobody is inconvenienced even for a minute!

When you're 'way out there, you need dependable power. You can count on that—and *more*—from Cat* Diesels. These rugged units save you money and trouble. They use a low-cost No. 2 furnace oil *without fouling*. That means cheaper fuel, less of it and less maintenance. And they're quality-built for long life!

Measured against any competitive units, you can't beat them for reliable, low-cost performance. Your Caterpillar Dealer, who backs them up with prompt, on-the-spot service, will be glad to *show* you why. There's an engine or electric set to meet your needs—in 12 sizes up to 500 HP and 315 KW. For full facts, call him today!

Caterpillar Tractor Co., Peoria, Illinois.



CATERPILLAR*

*Both Cat and Caterpillar are registered trademarks—®

WE'VE MADE CLAIMS... NOW MAKE US PROVE THEM

Here's new economy...new speed in construction fastening! The Remington Stud Driver joins wood or steel sections to concrete or steel surfaces in seconds . . . easily sets as high as 5 studs a minute. Powerful 32 caliber charges drive studs arrow-straight. The tool's light weight—only 5½ pounds—simplifies handling wherever studs are needed.

New guards for specific uses now make the self-powered Remington Stud Driver more versatile than ever. These attachments take all the guesswork out of stud location . . . assure fast, accurate fastening for every job. Illustrated are just 3 of these special guards. For full information about the *complete line* and about the Remington Stud Driver, send the coupon below.

A complete line of guards for special applications

"If It's Remington—It's Right!"

Remington DUPONT

MAIL THIS COUPON FOR FREE BOOKLET

Industrial Sales Division, Dept. AF-11
Remington Arms Company, Inc.
939 Barnum Ave., Bridgeport 2, Connecticut

Please send me my *free* copies of the new booklets showing how I can cut my fastening costs.

*Name*_____
*Position*_____
*Firm*_____
*Address*_____
*City*_____ *State*_____

Letters

(*From page 2*)

percent less; 2) can be driven with less effort; 3) reduce the possibility of splitting the flooring during nailing; 4) assure tighter fastening of the flooring partly because of the clearance between nail head and threads; 5) eliminate loose, squeaky, springy or buckled flooring under normal service conditions; 6) offer four times larger withdrawal resistance after one-year accelerated-service exposure.

Those who wish to receive additional technical information on the effectiveness of the heat-treated and tempered, helically threaded flooring nails can obtain it by writing to the Virginia Polytechnic Institute Wood Research Laboratory at Blacksburg, Virginia, for Bulletin No. 5. Samples of these nails can be obtained by writing directly to the Independent Nail & Packing Company of Bridgewater, Massachusetts, largest manufacturer of threaded nails.

E. George Stern
Research Professor
Virginia Polytechnic Institute
Blacksburg, Virginia

Program for Forestry

EDITOR:

After reading "A Proposed Program for American Forestry," I feel that I have viewed some of the most advanced thoughts proposed for the purpose of a better forestry program, that my eyes have ever had the pleasure of gazing upon. And if Gifford Pinchot or Teddy Roosevelt were with us today, they would without a moment's hesitation, okay your plans.

From my "on-the-ground study" of our national forests in Siskiyou and Del Norte, California, and Curry and Josephine Counties, Oregon, I can easily see that your Committee's views are derived from facts, whichever way you might have gained them, and from my own personal study of conditions, that I found. Through my mind have gone these very identical thoughts. When I witness the beetle and old age taking a greater harvest than man, and at the same time aware of the future value these forests contain, to future generations of Americans, it is with great difficulty that I restrain myself from feeling very bitter towards our Congress, who act as though their thoughts and plans should be completely devoted to overseas duty.

With your permission, I will use parts of your views in my letters to newspapers that are interested in home duties, for I feel that bringing your thoughts to the eyes of the general public will result in friendly sentiment that is bound to reach our Congress. Prior proof furnishes me with confidence.

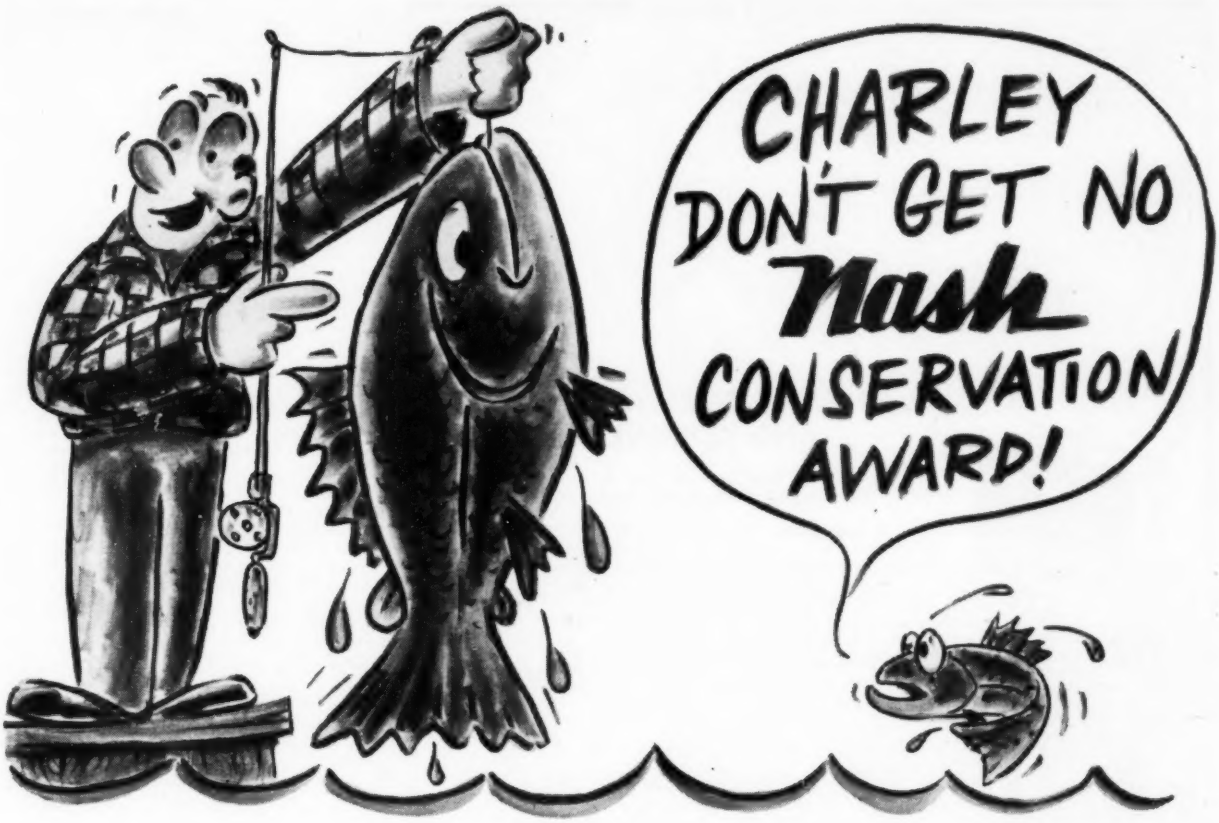
C. W. Van Osdoll
San Diego, California

On Complacency

EDITOR:

. . . I read the *complaceny-filled* report of the Higgins meeting without mussing a hair of my head. I am glad indeed if the forestry situation in the United States is so completely satisfactory that the Higgins Lake Conference couldn't raise a breeze. By the way, I wonder what became of the Minority Report? I haven't been able to find a copy of it . . .

(*Turn to page 6*)



CHARLEY may win a case of beer or a cabin cruiser or some cold cash for landing that lunker. Lots of people are dishing out prizes for big fish these days.

But Nash figures the guy who deserves a prize is the conservationist who helped make possible that whopper. Or that ten-point buck, or that covey of quail, or that flock of honkers. Because without that man there wouldn't be as many fish, or as much game.

So come January 15th, Nash is giving ten $500 awards to ten professional conservationists employed by non-profit organizations. Each will be selected because he's made an important contribution in connection with fish, wildlife, water, soil or forests. His work may have been in research, education, enforcement or administration.

In addition, ten awards without a cash grant will go to ten citizens who did something important to conserve the outdoors, as an act of good citizenship.

The awards Committee, which will select the award winners from among those nominated, consists of:

PIETER FOSBURGH, Editor of the New York State *Conservationist*

ED DODD, creator of the *Mark Trail* cartoons

MICHAEL HUDOBA, Washington correspondent and authority on conservation legislation

ALASTAIR MACBAIN, Chief, Div. of Information, U. S. Fish and Wildlife Service

JOHNNY MOCK, Outdoor Editor, *Pittsburgh Press*

Official nominating forms have been mailed to all private and public conservation organizations, rod-and-gun clubs and outdoor writers of whom record could be found. Since our records are incomplete, additional forms and information can be had by mailing the coupon below.

And incidentally, don't think we begrudge Charley that lunker. We wish *we'd* catch something that sensational. But we like to think the fish itself is all the prize a sportsman needs.

This is number 57 in a series of Nash advertisements by Ed Zern.

NASH CONSERVATION AWARDS COMMITTEE
ROOM 400, 745 FIFTH AVENUE
NEW YORK 22, N. Y.

Please send me a copy of the Nash Conservation Awards Program brochure, and.....official Nomination Forms.

Name.....**Position**.....

Address.....

.....

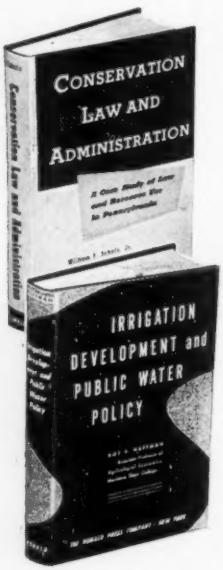
New RONALD Books

VEGETATION AND WATERSHED MANAGEMENT

E. A. Colman, *U.S. Forest Service*

For all concerned with our national water needs and supply, this significant book provides the first systematic appraisal of the methods of managing vegetation in watersheds to 1) increase ground water supplies, 2) check soil erosion and siltation in reservoirs, and 3) reduce flood peaks. Describes the effect of vegetation on hydrologic processes of runoff, infiltration, storage, etc. Summarizes recent research. *A Conservation Foundation study. 43 ills., 412 pages.*

$7



CONSERVATION LAW AND ADMINISTRATION

William F. Schulz, Jr., *University of Pittsburgh School of Law*

A Case Study of Law and Resource Use in Pennsylvania. Here is the first comprehensive study of a state's conservation laws and its program for the administration of renewable natural resources. The book covers wildlife, game, fish; water management; forests; recreation; etc. Includes a Model Conservation Administration Act based on critical analysis of the law, and adaptable to the needs of any state. *A Conservation Foundation study. 34 ills., 635 pages.*

$10

IRRIGATION DEVELOPMENT AND PUBLIC WATER POLICY

Roy E. Huffman, *Montana State College*

A complete analysis of the economic and social aspects of irrigated agriculture and public water policy in the U.S. Reviewing past experience, the book explains the problems to be met in planning, financing, organizing, and operating irrigation projects. Offers criteria for evaluating water resource programs, and underscores the requirements of sound, far-sighted irrigation policy on local, regional, and national levels. *19 ills., tables, 336 pages.* **$6.50**

• *Other Books of Lasting Importance* •

FOREST INVENTORY

Stephen H. Spurr, *University of Minnesota*

Detailed account of modern forest mensuration, stressing more accurate ways of correlating aerial photographic and ground surveys with forest volume and growth. Abreast of latest technical advances. *88 ills., tables, 476 pages.*

$8.50

AERIAL PHOTOGRAPHS IN FORESTRY

***Also by* Stephen H. Spurr**

How foresters can obtain needed, precise information in less time, and at lower cost, through correct use of aerial photographs. Covers all phases of the subject, explaining working techniques in detail. *113 ills., tables, 340 pages.*

$6.50

FOREST MANAGEMENT

H. Arthur Meyer, *The Pennsylvania State College;* Arthur B. Recknagel, *St. Regis Paper Co.; and* Donald D. Stevenson, *U. S. Department of Agriculture*

Up-to-date information and guidance for successful forest management, in planning and practice. Stressing applicability to American forests, book thoroughly covers problems of forest organization; principles and methods of forest regulation; and effects of economic conditions on forestry. Typical plans for various-sized forests throughout the U.S. *56 ills., tables, 290 pages.* **$6**

THE RONALD PRESS COMPANY • 15 E. 26th St., New York 10

Letters

(*From page 4*)

The following is no reflection upon my very good friends of long standing among The American Forestry Association's leaders and members. I attended what I think must have been the first Higgins Lake Conference. It was a great treat to see Dean Dana again and Will Greeley, and our present chief of the Forest Service has never failed to kindle new fires of enthusiasm or blow smoldering old ones into a new flame, but I thought the whole proceeding was a dud and I have tried to reason out why. Maybe—and probably—my conclusions are of no consequence and while Will Greeley is the wisest old head in the whole forestry personnel I could go back 15 years and read the minutes of The Forestry Association's annual convention of that year and just about duplicate the discussion that appeared at Higgins Lake. I don't think I got a single new idea—unless it was from Black of Minneapolis, who had a new defense of the lumber barons—and instead of these same speeches from the same men who have been addressing the members of The Forestry Association and the Trustees, Officers and Councilors, whose wisdom I envy, I wonder if the Higgins Lake Conferences of the future would not benefit by setting aside one session completely devoted to testimony, and squawks if any, from actual field forest rangers and men at the bottom of the stack of operators in the interest of forest preservation. . . .

Jay N. (Ding) Darling
Register and Tribune
Des Moines, Iowa

Tillamook

EDITOR:

In your August 1953 issue of AMERICAN FORESTS Mr. Anthony Netboy is quite critical of Mr. Greeley's article on the progress in rehabilitation of Oregon's Tillamook Burn. Mr. Netboy, who admits being a newcomer to Oregon, apparently thinks all that is necessary to convert the "Burn" into a green forest is to appropriate millions of dollars and employ an army of CCC boys.

In Oregon we have a saying that only "damn fools and newcomers try to predict our weather." The same rule applies to "roadside foresters" who drive through the "Burn" and immediately prescribe how it should be managed. . . .

Mr. Netboy's recommendations smell like a fantastic boon-doggle. His 100,000 CCC boys would only have to plant about three acres apiece if they had the trees and were in position to plant every acre in the "Burn." His hundreds of millions of dollars for rapid reforestation would provide more than $300 expenditure for every acre in the "Burn."

Fortunately, our State Forestry Department will complete the job in about ten more years and their costs are only $6 to $8 per acre for seeding and about $20 per acre for hand planting. Oregon can solve her own forestry problems in an orderly and economical manner. We welcome anyone who is sincerely interested in seeing the progress that has been made in reforesting and protecting the Tillamook Burn.

Verne D. Bronson
Tree Farm Management Service
Eugene, Oregon

Timber stands like this are not "mined" for short term gain; they are managed for the greatest long-term benefit. The primary aim is to so cut trees that there will be natural reproduction and young trees will have ample opportunity to grow to maturity. Part of the latter work is to guard against invasion by disease and insects, to protect them against fire, and to augment natural reproduction when it proves insufficient.

Corporation nurseries are operated to provide the young stock needed for the artificial regeneration of forest areas. Millions of transplants are moved from nursery beds each year and are planted on company lands. This Minnesota nursery is one of five supported through Kimberly-Clark's consolidated operations.

Tied in with good forestry management is control of the pests that attack a forest. To this end Kimberly-Clark set up during this past year a laboratory for applied research on insect and disease damage to forest trees and pulpwood. It is the first of its kind established in the United States by private industry.

One application of the research projects of the new laboratory is in Kimberly-Clark woodyards like this. One phase of a recent study was the spraying of pulpwood to control borers, which can render the wood unfit for pulp manufacture.

A Sound Company Builds Forestry Into Its Long Range Plans

Forestry is the science of establishment, improvement, protection, harvesting and reproduction of a forest. It is concerned with both young trees and old—trees ready for cutting and trees that will be harvested and used by another generation. Forest management plans have been an important part of Kimberly-Clark's woodlands program for many years, and all corporation lands are under forestry management.

KIMBERLY-CLARK CORPORATION Neenah, Wisconsin

The AMERICAN FORESTRY Series

HENRY J. VAUX

Consulting Editor

ALLEN • An Introduction to American Forestry

BAKER • Principles of Silviculture

BOYCE • Forest Pathology

BROWN, PANSHIN, AND FORSAITH • Textbook of Wood Technology

Volume I—Structure, Identification, Defects, and Uses of the Commercial Woods of the United States

Volume II—The Physical, Mechanical, and Chemical Properties of the Commercial Woods of the United States

BRUCE AND SCHUMACHER • Forest Mensuration

CHAPMAN AND MEYER • Forest Mensuration
Forest Valuation

CLAWSON • The Western Range Livestock Industry

DAVIS • American Forest Management

DOANE, VAN DYKE, CHAMBERLIN, AND BURKE • Forest Insects

GRAHAM • Forest Entomology

GREELEY • Forest Policy

GUISE • The Management of Farm Woodlands

HARLOW AND HARRAR • Textbook of Dendrology

HUNT AND GARRATT • Wood Preservation

KITTREDGE • Forest Influences

MARQUIS • Economics of Private Forestry

MATTHEWS • Cost Control in the Logging Industry • Management of American Forests

PANSHIN, HARRAR, BAKER, AND PROCTOR • Forest Products

PRESTON • Farm Wood Crops

SHIRLEY • Forestry and Its Career Opportunities

STODDART AND SMITH • Range Management

TRIPPENSEE • American Forest Management: Volume I, Upland Game and General Principles
American Forest Management: Volume II, Fur Bearers, Waterfowl, and Fish

WACKERMAN • Harvesting Timber Crops

Walter Mulford was Consulting Editor of this series from its inception in 1931 until January 1, 1952.

• *Send for copies on approval* •

WILDLIFE MANAGEMENT. Volume I—Upland Game and General Principles

By REUBEN E. TRIPPENSEE, University of Massachusetts. *American Forestry Series.* 479 pages, $6.00

Here is a simple, direct, quantitative approach to the process of making the land produce sustained crops of wild animals. The book gives a summary of the life histories of important game animals of North America, with techniques for their management.

WILDLIFE MANAGEMENT. Volume II: Fur Bearers, Waterfowl, and Fish

By REUBEN E. TRIPPENSEE. *American Forestry Series.* 572 pages, $7.50

This second and final volume of the authoritative study concisely brings together pertinent facts on management of water and wet lands; life histories, ecology, and management of fur bearing animals, waterfowl, and freshwater game fish, and presents necessary procedures for their abundant production and orderly harvest.

SOIL CONSERVATION

By HUGH HAMMOND BENNETT, Chief, Soil Conservation Service, U. S. Department of Agriculture, Washington, D. C. *McGraw-Hill Series in Geography.* 968 pages, $8.75.

This text describes the land loss, due to soil erosion, and the progressive waste of productive earth under the wash of rain and the sweep of wind with its broad implications of social and economic decline.

ELEMENTS OF SOIL CONSERVATION

By HUGH HAMMOND BENNETT, Chief, Soil Conservation Service, United States Department of Agriculture, Washington, D. C. 408 pages, $3.40

A clear, comprehensive treatment of the problems of soil erosion and soil exhaustion, providing tested methods for solving these problems. Written in concrete language and interesting style, it presents a vast amount of technical information and data.

RECLAMATION IN THE UNITED STATES

By ALFRED R. GOLZE, Bureau of Reclamation, United States Department of the Interior. 441 pages, $8.00

A comprehensive treatment of the entire subject of reclamation, bringing together the irrigation and hydroelectric power components, and showing their interrelation and interdependence.

ENERGY SOURCES: The Wealth of the World

By EUGENE AYRES, Gulf Research and Development Company and CHARLES A. SCARLOTT, Editor *Westinghouse Engineer,* Westinghouse Electric Corporation. 338 pages, $5.00

Tells how man has contrived to wrest from nature the vast supplies of energy needed for his comfort and progress, and gives an account of the many things now being done in anticipation of the eventual exhaustion of fuel resources.

FIELDBOOK OF NATURAL HISTORY

By E. LAURENCE PALMER, Cornell University. *Whittlesey House Field Guide Series.* 664 pages, $8.00 (text edition available).

Here is an indispensable reference book for use by students and teachers of natural history, nature study, general science, biology, ecology, forestry, and wildlife management.

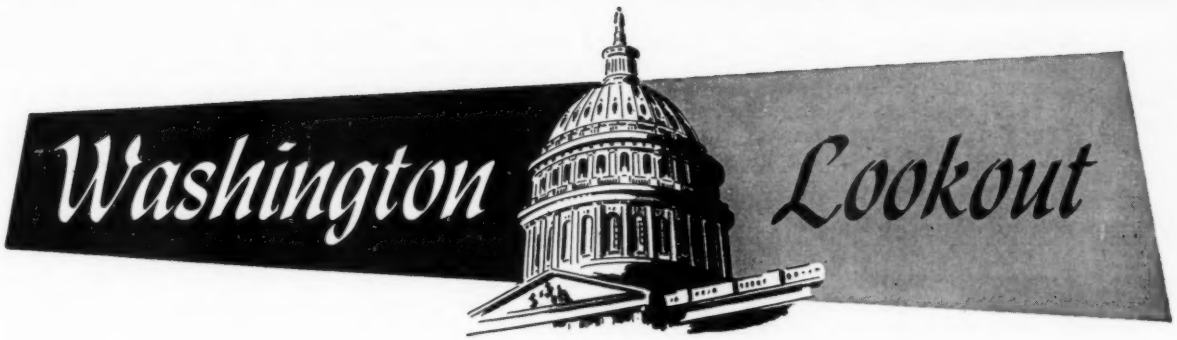
THE ROAD TO ABUNDANCE

By DR. JACOB ROSIN, Director of Research, Montrose Chemical Company, Newark, New Jersey; and MAX EASTMAN. 166 pages, $3.50

This book is a challenging and brilliantly reasoned answer to those who feel the resources of our planet are running out. According to the authors, a future of absolute and inexhaustible abundance is assured provided money and faith is put into chemical research and manufacture.

McGraw-Hill Book Co., Inc.

330 West 42nd Street **New York 36, N. Y.**



HOW EFFECTIVE ARE PROGRAMS DRAWN BY ORGANIZATIONS, such as The American Forestry Association, and what good purpose do they serve? What effect do they have on the public generally, and on the Congress of the United States in particular? These two questions are probably on the minds of all the serious participants in the Fourth American Forest Congress.

THE PROGRAM FOR AMERICAN FORESTRY AS DEVELOPED by the Higgins Lake Committee, and the ultimate program to be approved by the membership of The American Forestry Association will serve as a guide post to public agencies, to private industry, to individual forest landowners, to conservation organizations, to educational institutions, and to the Congress of the United States. All these groups have had a hand in developing forestry to its present stature and current level of application. All have had a hand indirectly in the Higgins Lake Report and the Proposed Plan for American Forestry. The value of the program lies in the democratic manner in which it has been developed so far, and in the further free discussion that will precede its final rewriting.

THE CONGRESS OF THE UNITED STATES REACTS to the pulse beat of the nation. While it is true that individual leaders often are out in front of public opinion, most legislative action is a reflection of what the people want. The Second Session of the 83rd Congress will have at its disposal a new guide post for forestry action. The new program will be an expression of the type of Congressional action that the people generally will support.

PROGRAMS FOR AMERICAN FORESTRY ARE NOT ACTUALLY DEVELOPED at such spots as Higgins Lake, nor are they developed at such meetings as the Fourth American Forest Congress. These conferences provide succinct expression of the programs which are the result of guided evolution. Consequently, it is not unusual to find that the Congress of the United States has already acted on some of the program recommendations, has set a few of them in legislative motion, and is preparing to deal with several others.

FOREST LANDOWNERSHIP, THE FIRST MAJOR DIVISION of the proposed program, has been receiving attention from the Congress for a number of years, particularly with regard to federal landownership. However, there is a lack of complete understanding of the effects of current landownership patterns on the practice of forestry, both public and private, and on the local tax structures. It is expected in some quarters that a bill will be introduced in the Second Session to provide for a Congressional study of federal landownership, including forest land.

FOREST PROTECTION, IN THE FIELD OF FOREST FIRE prevention and control, is unlikely to receive any greater appropriations from the Congress than the current level of $9,449,500. While states and private owners are now bearing 75 percent of the cost of protection from fire, it is expected that the Congress will look to them to continue at that or even a greater proportion of the total costs for state and private lands. A possible exception to this may be made for critical areas where additional protection from a national defense standpoint may warrant temporary emergency funds. The Proposed Program for American

(Turn to next page)

Forestry does not call for increased federal expenditures. Now before the Congress is a bill, H.R. 6393, by Representative Colmer of Mississippi, seeking the consent and approval of the Congress to an interstate forest fire protection compact for the southern states. One such compact is already in effect in the Northeast. It is expected that the southern compact will be approved, and thus advance one more point in the Proposed Program for American Forestry.

THE NEED FOR PROTECTION FROM INSECTS AND DISEASES has been brought to the attention of the Congress; and for Fiscal Year 1954, funds have been appropriated for rapid salvage (a control measure) of dead and dying timber. In considering the need for access road money for timber salvage, the appropriations committees, in effect, promised to provide further funds in the form of supplemental appropriations, if needed. The Congress generally is reluctant to appropriate contingency funds for unexpected disasters, such as is suggested in the Proposed Program. However, in view of the current losses from insects and diseases, it is not unlikely that the Congress will give serious consideration to establishing emergency funds and to strengthening research and detection programs.

EXCEPT FOR AUTHORIZATION AND APPROPRIATION OF FUNDS FOR ACCESS ROADS, and providing for emergency action against insects and diseases, the Proposed Program items for improved forest practices on federal lands can be undertaken by the agencies responsible for public land management without further legislative action. Several access road measures are now in the Congressional hopper. In principle these have the backing of all persons concerned.

CONTROL OF DESTRUCTIVE CUTTING PRACTICES has been left, by the Proposed Program, in the hands of the states. It is not anticipated that the Congress will attempt to enact a federal regulatory law, nor is it likely that any serious attempt will be made to provide for federal standards for state legislation.

WHILE A PLANTING GOAL OF TWO MILLION ACRES a year has been proposed, it appears that the bulk of the burden will rest on the states and private forest landowners. Federal appropriations for this activity, in an economy-minded Congress, are expected to remain at about the current level of $447,000.

MULTIPLE-USE MANAGEMENT OF PUBLIC LANDS, especially with a view to conservation of soil and water, as proposed, needs no Congressional action so far as policies are concerned. A new item in the Department of Agriculture appropriations act provides for upstream "pilot plant" developments in the amount of $5 million to provide for 50 demonstration areas. Another program proposal to provide for replacement of impaired access to lands cut off by federal dam and water reservoirs is now being considered by the Congress.

FOREST RECREATION, GRAZING, MINING, AND WILDLIFE MANAGEMENT on public lands can be expected to follow the recommendations of the Proposed Program. Despite the economy-consciousness of the Congress, sufficient interest has been aroused in forest recreation to stimulate action toward development of recreation and wildlife facilities. The Hope Bill, H.R. 6787, introduced in the closing days of the First Session, looks toward effective administration of public range lands, through cooperation with established grazers. Mining laws, as they apply to federal forest land, are scheduled for a revision that will define and limit the claimants' right to utilize timber resources.

ASSISTANCE TO FOREST OWNERS AND OPERATORS may have to depend upon the states and the forest industries for expansion. Federal fund authorizations for this purpose were not augmented in the past two appropriations; and it is not likely that the 1955 federal contribution will be any greater than the current $634,000.

THE NEW PROGRAM FOR AMERICAN FORESTRY will appear on the scene following a decade of accelerated forestry advancement. While the program recognizes the responsibility of the states and of private individuals and acknowledges the progress being made by them, it also points the way for proper federal stimulation. The program calls upon the Congress for relatively few actions to remove impediments and to speed the development of practical forestry in the public interest. Because the requests are few, are well substantiated as to need, and will be well supported by the people of the United States, it is safe to predict that Congressional attitude and action will generally be favorable.

Besley Sees '54 As Banner Year In American Forestry

THE year 1953 has been a period of "searching reassessment" in planning new forestry gains, Lowell Besley, executive director-forester of The American Forestry Association, told the West Virginia Chapter of the Society of American Foresters on September 25.

Speaking on the topic "Recent Happenings and Trends in American Forestry," Besley told his audience at Jackson's Mill, West Virginia, that a number of key meetings and studies in 1953 are having a bearing on major aspects of forestry, forest landownership and management. These include the timber resources review launched by the Forest Service; the National Farm Woodlot Conference sponsored by American Forest Products Industries in June; the Fourth American Forest Congress called by The American Forestry Association October 29-31 in Washington; conferences of the Chamber of Commerce of the United States; the American Mining Congress; and the Mid-Century Conference on all resources called for next month by Resources for the Future, Inc.

Another strong indication that resources will receive increasing attention in future months is the careful attention the new administration and the Congress are giving to them, Besley said. The President's message on conservation to Congress in July, the important committees and commissions established to work out plans for reorganization of the executive departments, a careful analysis of federal-state relationships being undertaken, and the numerous legislative measures introduced into the past session of Congress were all described as significant by the speaker.

"The new government is committed to a policy of reduction of federal expenditures and to greater efficiency in the executive branch," Besley said. "It knows that reductions of expenditures merely as across-the-board cuts in all federal activities are likely to result in less efficient rather than more efficient administration.

"Lasting economies can be effected only by 1) reorganization of the executive branch to eliminate duplication and overlapping and to coordinate activities under efficient administrators, and 2) discontinuance of certain services now performed by the federal government which might be performed adequately by state or local government units, or by private organizations or individuals. The President's message indicates that this is clearly understood. Those who are impatient with the modest progress made in these two directions in the first nine months of the new administration should not overlook the fact that if these reforms are applied too rapidly and without proper prior planning, chaos rather than improvement will result."

Both industry and federal government have indicated that they would like to see some of the forestry activities which have been assumed by the federal government transferred back to the state, local and private fields, Besley said.

"As a strong believer in both the private enterprise system and in states' rights I would concur with that objective," Besley declared. "On the other hand, a process of transfer is fraught with many very real dangers to forestry unless we are willing to adhere closely to one very fundamental concept. That is, that authority, whether it be established by ownership, law, or appointment, carries with it in equal measure, *responsibility*. The loose talk which goes on continually seems to overlook this basic concept of responsibility. There is a big difference between transfer and abandonment.

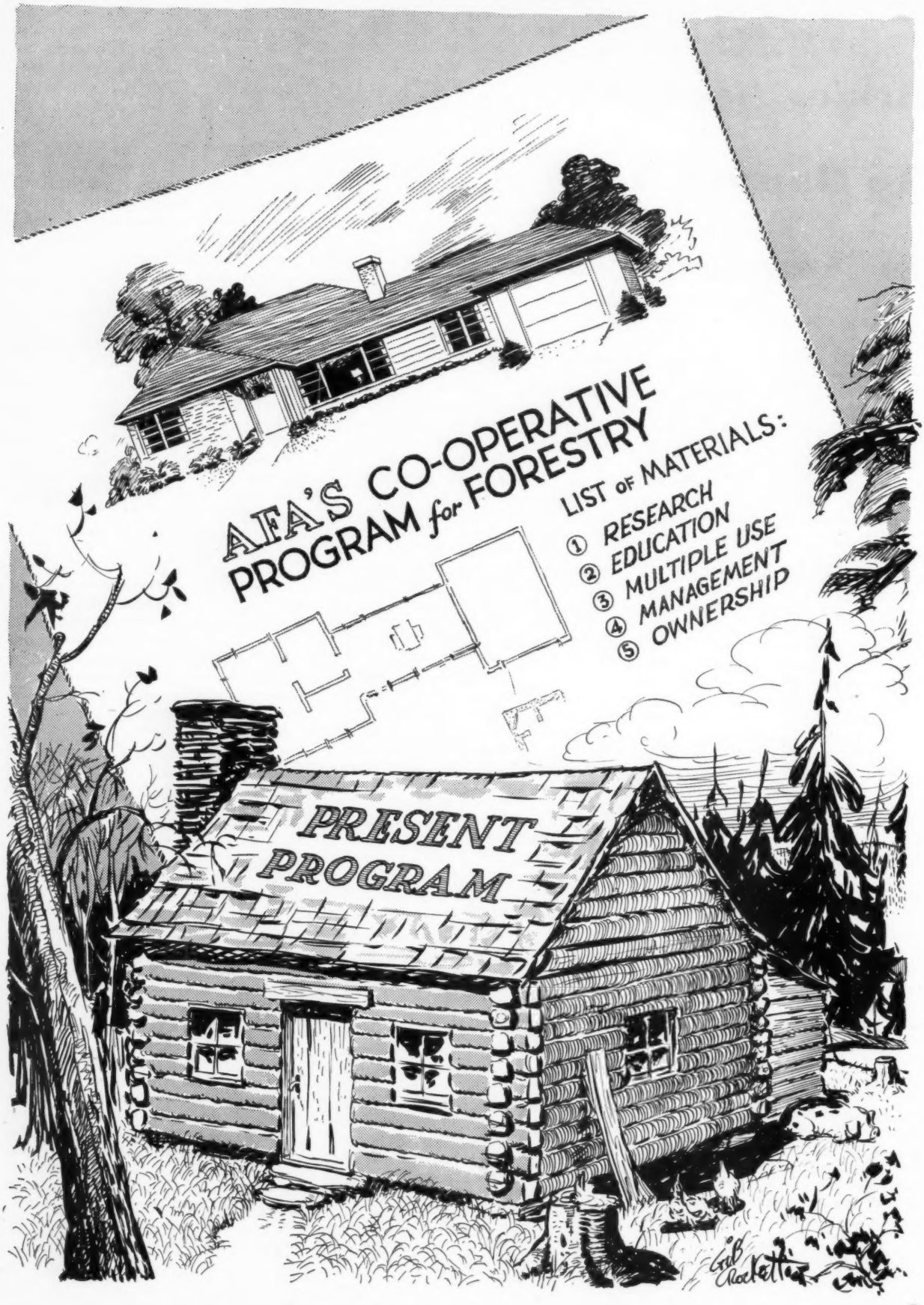
"We have seen a big increase in both state and private forestry activities in recent years," Besley continued. "Nevertheless, it cannot be said that either group is doing nearly as much as would be desirable in forestry matters. In most states, the total amount spent in their cooperative forest fire prevention and control programs is still insufficient to do the job properly. If federal funds were to be withdrawn, the state forestry departments would find it necessary to raise an equal amount from state funds, even to maintain the unsatisfactory status quo. The eventual saving in federal taxation would have to be added to state taxation unless a step backward were to be taken. This would not help the taxpayer."

"In strictly federal activities, any desirable change from federal to state control would require an even longer transition period before the activities and responsibilities could be fully absorbed or undertaken by state, local or private organizations and individuals. Considerable time would be required to establish new financing of the work and to build up competent personnel to carry on the work.

"We can be proud of the recent forestry progress in the United States," Besley said, "Nevertheless, we realize that we are only just beginning to actually practice forestry on-the-ground. With the usual exceptions to prove the rule, industrial forests are probably receiving the best forestry now being practiced in this country, and the forests in small ownerships are receiving the poorest treatment. Federal, state and community forests lie somewhere between these extremes."

In speaking of the forthcoming Forest Congress, Besley said that forestry's problems deserve to be looked at both critically and constructively in this period of stock-taking and reappraisal. The directors of the AFA called a Fourth Forest Congress to accurately assess forestry's position and chart a course for the future. "This is your Congress — the anvil on which you can forge a workable program for forestry in the future," Besley told the foresters in urging them to attend.

A House in the Woods



EDITORIAL

It's Time that the "Twain Shall Meet"

Decision of the Board of Directors to hold the 1954 Annual Meeting of The American Forestry Association in Portland, Oregon, is a wise move and one that should prove helpful in straightening out a number of kinks as they apply to western conservation problems. The truth is that easterners, including the Association's predominately heavy eastern membership, are ill-informed on many western problems. This is partly due to rapid changes in the West in recent years. It is also attributable to a matter of geography, of interest is the fact that only one western meeing—Los Angeles in 1941—is recorded in the entire 78-year history of the AFA. Existing misconceptions can also be chalked up in part to the welter of conflicting viewpoints on western problems that have largely conditioned eastern thinking in years past, including a long series of "emergencies," both real and artificial, in which temperate reasoning not infrequently was bowled over by the weight of hyperbole and emotionalism.

When viewed in retrospect, American conservation, for upwards of three quarters of a century, has been a rather shrill business. The tradition of the movement as it evolved around forestry has often been one of excessive zeal in which problems were either all black or all white. Extremists and fanatics—"Teddy" Roosevelt once called it the "lunatic fringe"—have been more active in conservation than most other lines of activity. As a consequence, many poorly-equipped men and women, who would have failed to qualify as experts in more exact lines of endeavor, quickly became "specialists" in conservation and contributed liberally to many mistaken concepts. As with most crusades, emotionalism has been both the strength and the weakness of conservation. While it was succeeding in alerting the public to serious resources conditions, it was also busy spreading information that was often inexact and misleading. As a result much bewilderment has been created in the mind of a receptive public.

It is to be sincerely hoped that conservation never loses the true crusading spirit. At the same time we should not be unmindful of the fact that true zeal adapts itself to changing patterns and new trends. And in tempering their approach to attune to today's conditions in a rapidly expanding field, the true zealots are those who are conforming with the empirical pattern of honest inquiry now required in a movement that is becoming a science.

More and more people are looking for conclusive answers in conservation today than in previous years. It is significant, for example, that the man who was always "against" something and not necessarily "for" anything, has been slipping into an eclipse in recent years. In one of the most emotion-charged of all conservation fields—that of public range management—it is notable that experts are coming more and more into the foreground with specialists in the federal services and a majority of the grazers themselves making honest efforts to resolve their problems intelligently with emphasis on range management as a science. Even the laymens' groups who congregate to lambast the grazing industry, after the customary steak dinners, are less vociferous than formerly. And feeling is spreading that past free-for-alls in this field have actually accomplished little, that if conservation is to march forward more emphasis must be placed on the conciliatory approach, less on the use of the blackjack.

That there will continue to be honest differences of opinion on the part of various users of land is, of course, inevitable. The danger lies not in such differences of opinion, however, but in the possibility of alienating important groups that must become key links in conservation if the over-all effort is to succeed. All of which would indicate that The American Forestry Association is proceeding along sound lines in its announced intention of taking its 1954 Annual Meeting west to seek out the facts on western problems in a spirit of scientific inquiry. For according to General Chairman Edward P. Stamm the meeting scheduled for September 6, 7, 8, and 9 at Portland's Multnomah Hotel will not be a "hotel meeting." It will be a "field trip" meeting with emphasis on observation.

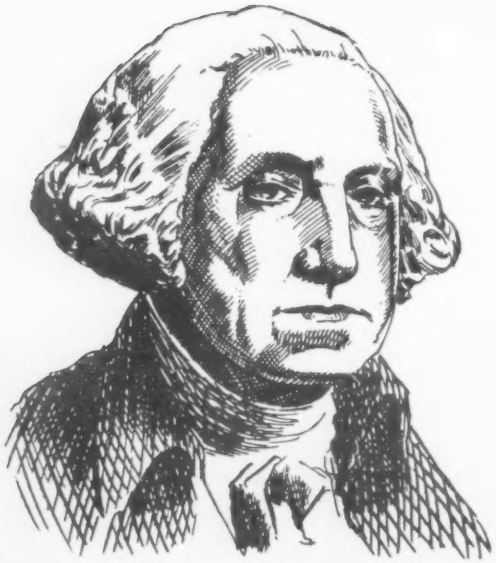
With the AFA now setting about the task of completing the forestry edifice started so admirably 78 years ago, this proposed western junket —following closely on the heels of the Fourth Forest Congress—should help to bridge existing gaps in eastern and western thinking on a number of basic problems. Nor should it stop with urging as many of our eastern members as possible to attend. Also helpful would be a series of conferences between key AFA leaders and representatives of all the various western groups active in conservation work. As an outstanding leader in the AFA recently commented, the way is now clear whereby the Association can "exert the most profound leadership in its long and honorable history." But to do this, he added, the Association must re-establish its grass roots contacts and serve as a "bridge" in keeping the public informed on the facts. That is why this proposed western meeting looks like a good place to start. A meeting of minds between eastern and western conservationists would pave the way for future cooperative effort, prove that Kipling was not necessarily correct when he observed that "never the twain shall meet."

Trees planted by Washington more than a century and a half ago still adorn the grounds of his beloved Mt. Vernon

Photos by Jack Rottler

Mulberry tree (W—i.e., planted by Washington) behind "schoolhouse" on Mount Vernon grounds

Living Links



By E. JOHN LONG

The approach walk to tomb at Mount Vernon. The black oak (W) in center of photo is a landmark

Three black oaks (W) in field northeast of the mansion. Potomac River can be seen in background

with Washington

MANY who make pilgrimage to Mount Vernon regard the plantation home of George Washington simply as a beautiful memorial. Washington himself has been dead for a century and a half. He left no progeny, the relatives now bearing the Washington name being collateral descendants. None of them lives very near Mount Vernon today; in fact, no one has resided in the Mansion House overlooking the Potomac for almost a hundred years.

Memorial it is, certainly, yet it is something more. One is not within the gates of the estate long before Mount Vernon somehow seems very much alive. It would not be too surprising to see the First President strolling around, inspecting his well-tended acres and the "little industries" that made an 18th Century plantation an almost self-sufficient community.

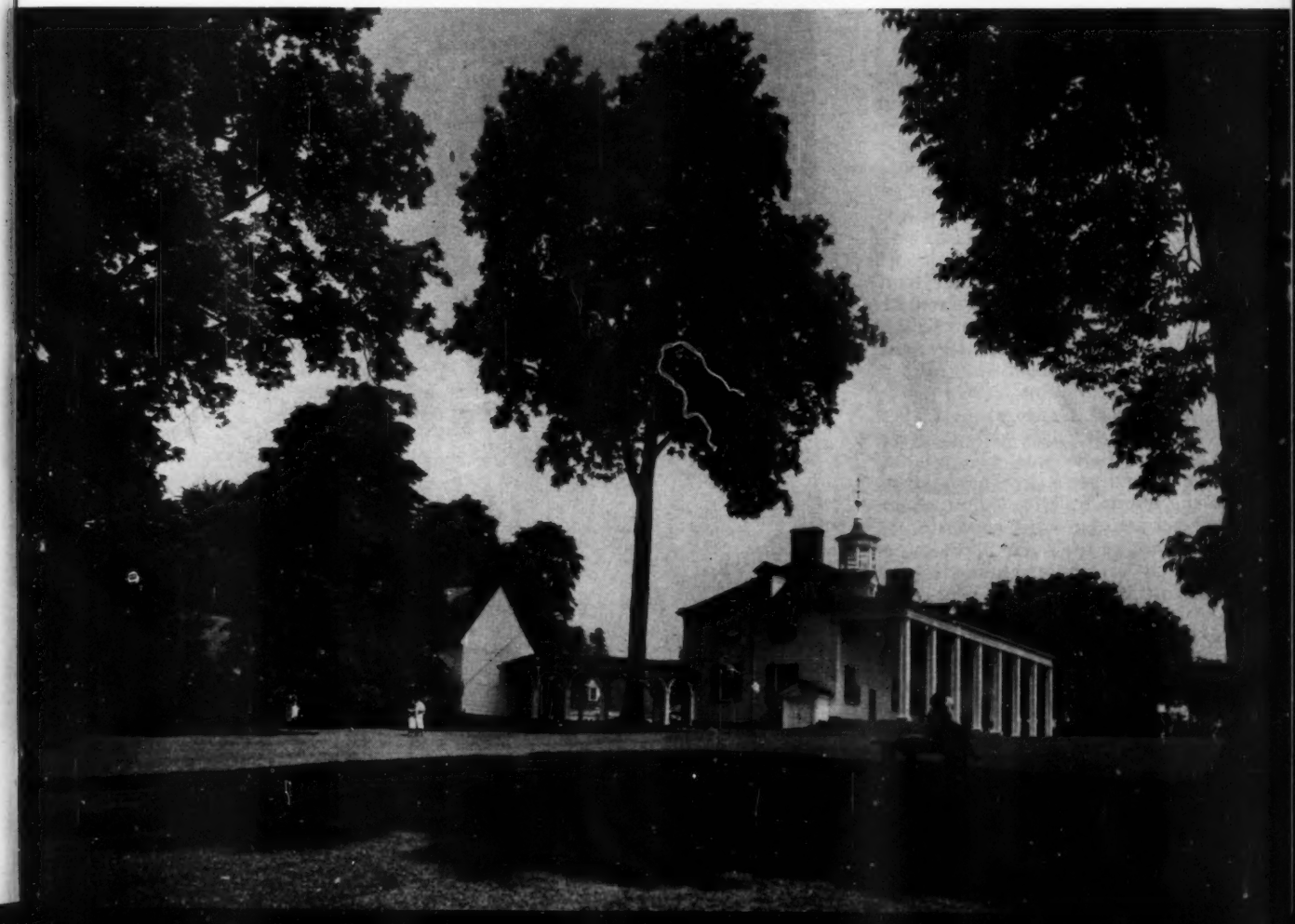
Aside from the general neatness and freshness of the place, the main reason why it seems so much alive, I am convinced, is the abundant good health of its magnificent trees, its stout hedges, and bright flower gardens. In their leafy, blossoming splendor the spirit and times of Washington, the planter home from the wars and the council chamber, are very much alive.

This feeling is not altogether illusion. Close to the Mansion House and the gardens he loved stand at least 15 living links with the days when the First President walked about the grounds, noting with a discerning and appreciative eye everything that grew or took place there. His observations and comments he duly recorded in his famous diaries. From these writings, his letters, and the weekly reports of his gardeners we know that at least 15 fine old trees in the Mansion House grounds were not only alive in Washington's time, but they were probably planted under his personal supervision.

In Washington's day they were no more than saplings, but they were planted with an eye to the future, and, were Washington to return, he might recognize them without comment for what he had planned in placing them where they are.

Mount Vernon records show that Washington planted many hundreds of trees in the vicinity of his home during his lifetime. The 15 originals alive today are but the survivors, the large ones, that is, which the forces of decay and the fury of storms have spared. The toll has been particularly heavy in the last

Front of famed Mount Vernon mansion, once home of the "father of our country"



Restoration program is helping keep Mount Vernon much as it was during Washington's time

Five trees—elm, tulip poplar, buckeye, hemlock and ash—all planted in the 18th Century

Author Long, left, chats with Robert B. Fisher, horticulturist, on lawn at Mount Vernon

quarter of a century, despite valiant preservation efforts, the count going down from 52 in 1924 to 30 in 1949, and finally 15 in 1953.

It is particularly fitting that we take note of this diminishing band, whom Washington's eyes have seen alive, because this year Mount Vernon is celebrating, in a quiet way, an anniversary of an event that had a great deal to do with their survival. It was on December 2, 1853, that a frail little woman from South Carolina, Miss Ann Pamela Cunningham, took office as the First Regent of the Mount Vernon Ladies' Association and launched the drive for funds that saved the historic place from falling into ruin.

In honor of the event, the Ladies' Association has arranged a special exhibit of documents, photographs, sketches and press clippings relating to the efforts of Miss Cunningham, and her associates and successors, as custodians of the home of Washington. Of particular interest to the horticulturist are the sketches and photographs that show changes in plantings and landscaping, as time and circumstance eliminated certain conspicuous trees and shrubs, and others, by accident or design, came up in their places.

Although George Washington seems doomed to be remembered for "tree destruction" (thanks to Parson Weems and his cherry tree foible), he was actually throughout his life an ardent tree lover, and something of what we would now term a "conservationist," even while the country was still heavily blanketed with trees. Dense forests in the 18th Century were no novelty, and the timber problem was largely one of disposal or removal to provide more farm land. Only a few of the larger plantations gave any thought to trees and shrubs for their decorative values.

Scores of references in Washington's diaries, however, attest to his genuine affection for and appreciation of all that grew on Mount Vernon's fertile acres. While Washington would probably have been the first to confess his own ignorance of science, the record reveals a surprising knowledge of horticulture when it is considered how little was known about this branch of science in his day.

His tree planting plans, also, show keen understanding of shape, mass, and other qualities of certain trees, and their appropriateness in special locations as screen, fence or windbreak. Beyond the Mansion House he cut vistas through the enveloping woods, partly as firebreaks, but also to enhance the general landscaping

scheme, although some say they were to enable him to see what was taking place in his various fields.

Because General Washington received so many plants and seeds from foreign sources, some as gifts from admirers and others on order, much of the planting at Mount Vernon in his lifetime was experimental. When imported material failed to survive, however, it quickly was discarded. Washington favored indigenous trees and plants, so imports or "exotics," no matter how fashionable on estates elsewhere, had to prove their way to stay.

But to get on with the real subject of this story—the 15 large tree veterans of Washington's time. Robert Fisher, horticulturist in charge of Mount Vernon gardens and grounds, recently re-evaluated all trees believed to have been planted by Washington still standing at Mount Vernon today. In his quaint office, back of the restored greenhouse, he told me he could find evidence only for the following: two ash, two tulip or yellow poplar, one buckeye, four holly, two Kentucky coffee bean, one hemlock, one mulberry, and two weeping boxwood. There are a few scattered small trees and shrubs that may be contemporaneous with Washington, but the record is fuzzy here and they may better be ignored. Also three large oaks might be added to the list, but they stand off the Mansion grounds and are not included in Washington's planting charts.

So let us confine our explorations to the area closest to Washington's heart and attention, where often he must have strolled as the sun set in the rolling Virginia countryside. Except for those arriving at Mount Vernon by boat, this is the first part seen by the visitor today.

With Mr. Fisher as my guide I set off from the modern tourist entrance to inspect the oldest living things at Mount Vernon. Leaving the approach walk, bordered with oriental planes, we soon came to an old white mulberry (*Morus alba* L.), whose split trunk is reinforced with metal rods. Its gnarled limbs hang protectively over the tiny schoolhouse inside the garden wall.

Mr. Fisher said the garden record shows that a bundle of mulberry trees was received in April 1792, probably from Governor Pinckney, of South Carolina. These may have been either white or English mulberries, because the notation states further that the gardener was prepared to graft the trees upon arrival. Both English and white mulberries were grafted on the native Virginia mulberry at Mount Vernon.

Following the beaten tourist path around the head of the Bowling Green, as the expanse of shaded lawn west of the Mansion is called, we came to two little patches of woods which envelop the end of the Green like sheltering arms. Washington referred to these thickets as "Wildernesses," which seems whimsical within such narrow confines, but his terminology was drawn from the garden books of the times.

In the North Wilderness stand two more original Washington trees. Each is a native holly (*Ilex opaca,* Ait), remnants of a holly hedge that once ran along the outside of the Wilderness. Washington was extremely fond of holly. His workmen collected holly seeds by the barrel, and sowed them with drills in many locations about the Mansion House farm.

"We are replacing the 200 holly trees that once hedged the Bowling Green," Mr. Fisher explained. "About 80 trees have already been planted."

Following the arbored north Serpentine drive toward the Mansion we soon reached one of the two surviving Washington-planted American ash (*Fraxinus americana,* L.). A splendid, towering tree, it has survived several vicious lightning attacks, as its scarred trunk shows. It probably dates from 1785. In January of that year several ash were spotted by Washington in the vicinity of Mount Vernon, and were collected and planted along the Bowling Green in March.

Another of the four original hollies crowds the garden wall nearby, while a little farther along, their spreading branches nearly touching, rise four of the finest of the Washington trees. Topping them all, monarch of all it surveys at Mount Vernon, is a magnificent tulip or yellow poplar (*Liriodendron tulipifera,* L.), its flowered crown soaring to 120 feet.

The tulip's bulk overshadows one of the most unusual of all the 3000 or more trees on the Mansion Farm—the buckeye (*Aesculus glabra,* Willd.). Visitors from the Middle West may smile to hear the buckeye referred to as "unusual," but this one has a special niche in Mount Vernon's arboreal hall of fame because it was discovered, as well as first transplanted, by Washington. The General brought back seeds of the species which he gathered during a trip to the Kanahwa country, near the mouth of the

(*Turn to page* 86)

Harvesting Timber on a

The U. S. Fish and Wildlife Service has gone into the timber business. And if operations on the Piedmont National Wildlife Refuge in Georgia are a good indication, business is booming

WITH the unqualified approval of deer, wild turkey, fur-bearing animals, quail, waterfowl and other form of wildlife, the U. S. Fish and Wildlife Service has entered the timber business. The ring of ax and rumble of tractor is heard over a number of its refuge areas as marketable trees are cut and hauled to local mills. Everyone concerned with the brand new venture is enthusiastic about it, for it is a four-way profit deal that brings welcome dollars into local coffers, helps defray the cost of running the Fish and Wildlife Service, provides work for mill hands, loggers and such, and makes the birds and animals of the area a lot more productive. It is indeed a happily conceived arrangement, and one that is destined for considerable expansion.

In my extensive travels this past summer inspecting various federal wildlife refuges, I learned some surprising things—not the least of which is the fact that the Fish and Wildlife Service is actually profitably engaged in the timber business. This new phase of activity is, of necessity, confined to those refuges which embrace considerable wooded areas—mainly the upland game refuges of the south. Most of these refuges were originally cutover timberland and beat up pastures when acquired by the Service and have not yet reached the timber-growth stage where commercial cuttings of any size can be made. But the trees are growing fast, and it won't be long before the stumpage garnered on federal refuges will play no inconsiderable part in the over-all timber picture of the nation.

This is no idle prognostication, as witness the enviable timber record already made by the Piedmont National Wildlife Refuge in north central Georgia. The timber operation there is a proved success. It has jumped from practically zero in 1944 to almost $100,000 in 1952, which is a mighty substantial growth for any kind of business. The Piedmont operation is being used as a pattern for other timber management programs being started and carried on in ten other refuge areas elsewhere in the nation.

In order to see how this timber business on a wildlife refuge works, let's take a close look at Piedmont. It has about 31,000 acres in extent and was acquired in 1939 and is located northeast of Macon, Georgia, in Jasper and Jones counties. The original Piedmont Refuge wasn't much to look at—about 50 percent cutover timber, mostly what was left of a scrub stand of loblolly and yellow leaf pine, and 50 percent worn-out pasture and abandoned cotton farms. The area as a whole wasn't considered to be worth much as farm, pasture, woodlands, or even a game refuge, for that matter.

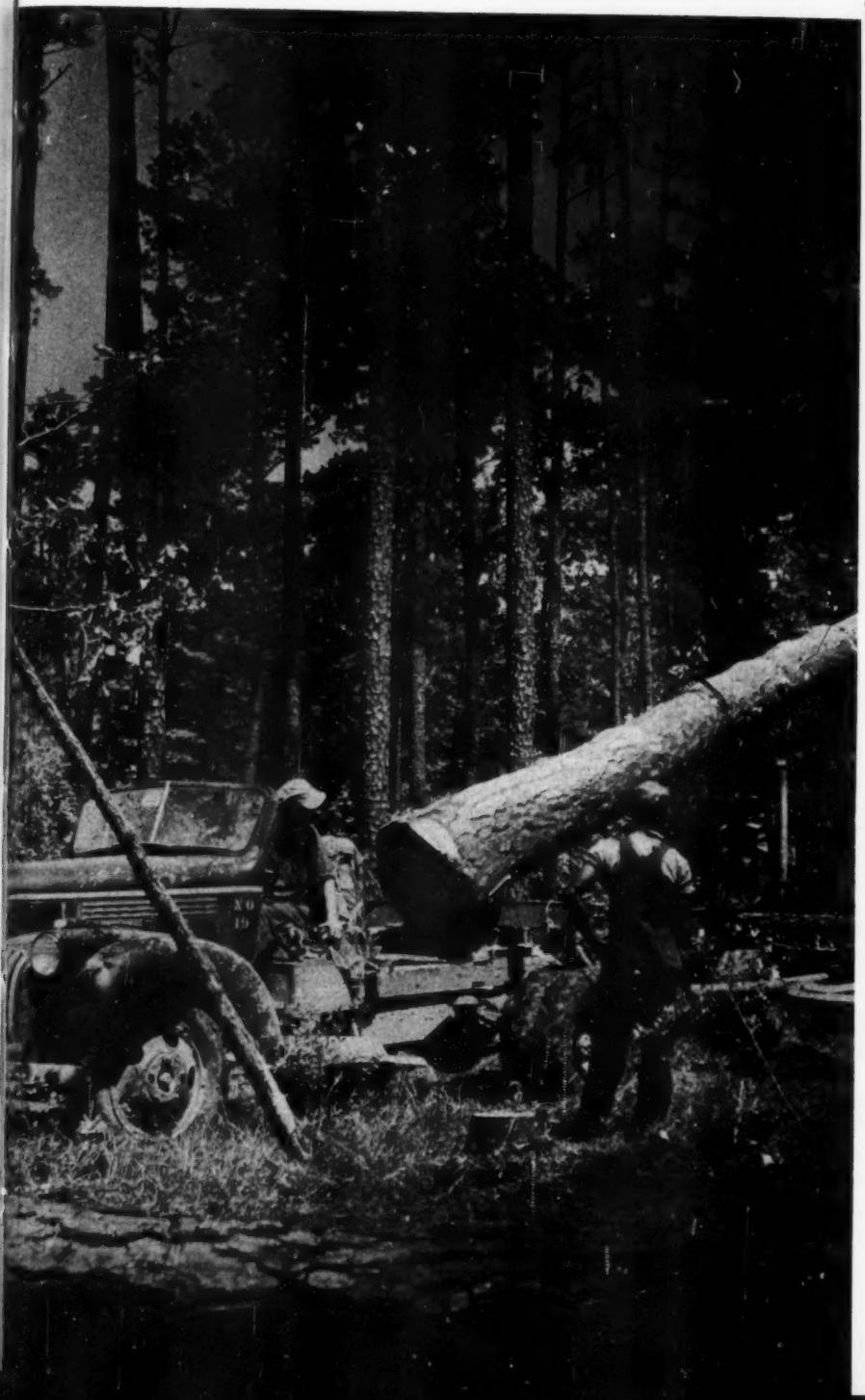
The main idea was to regenerate the native birds and animals, whose populations were reduced to a nub, mainly because of poor habitat. Wild turkey and deer were the principal considerations, but due concern was given fur-bearing animals, woodcock, quail, dove and other fauna.

It would make interesting reading at this juncture to say that the timber part of the setup was discovered purely by accident— that all of a sudden the Fish and Wildlife Service found beautiful big trees on its refuge that were just wonderful surprises. Such is not the case—for the present timber stand on Piedmont is no accident—it is the definite result of a long-range plan. This program was fostered by J. Clark Salyer, II, known in the Service as the "Father of the wildlife refuge system." Included in it is a provision to set aside certain timber areas as inviolate—to be left to grow as nature dictates.

Besides, the Fish and Wildlife Service has some Grade A foresters in its employ. Don Ambrosen, the present manager at Piedmont, graduated from the University of Minnesota Forestry School. Howard Miller, regional refuge manager at Atlanta, is a Yale Forestry School graduate and was a crack forester before joining up with the Fish and Wildlife Service. When the Piedmont Refuge program was launched, trained timbermen had charge of the entire tree planning from planting to cutting.

The first step in the program was an appraisal of the situation. It was learned that new trees were already growing in most of the cutover

a Wildlife Refuge



By CLEVELAND van DRESSER

woods area and consequently seeding of only 500 acres was necessary. Loblolly and long leaf pine seedlings were planted on those denuded areas and immediate steps were taken to build up eroded gullies and ravines. An additional 700 acres was planted to cover crops to revitalize certain worn-out pasturelands.

Loblolly and long leaf pine are fast growers, and it wasn't long before thinning became necessary. Contrary to a once popular opinion, a dense forest doesn't mean abundant wildlife. Birds and animals need clearings in wooded areas, and a certain amount of room is demanded by shrubs and ground growth essential for wildlife habitat. Fortunately, such clearings are compatible with good forestry management. It is an obvious fact that if proper thinning is not practiced, a forest area will grow up into a lot of skinny, half-starved trees fighting with one another for existence. A properly thinned stand results in fewer trees, but they are a lot larger and more useful in every respect. There simply isn't space enough in a properly managed forest for all the trees that nature usually plants.

Timber management on the Piedmont Refuge and other Fish and Wildlife areas is similar to that of the U. S. Forest Service. However,

(*Turn to page* 91)

Author van Dresser believes it won't be too long before operations on federal refuges will play a big part in our timber picture

Is this Creeping Socialism?

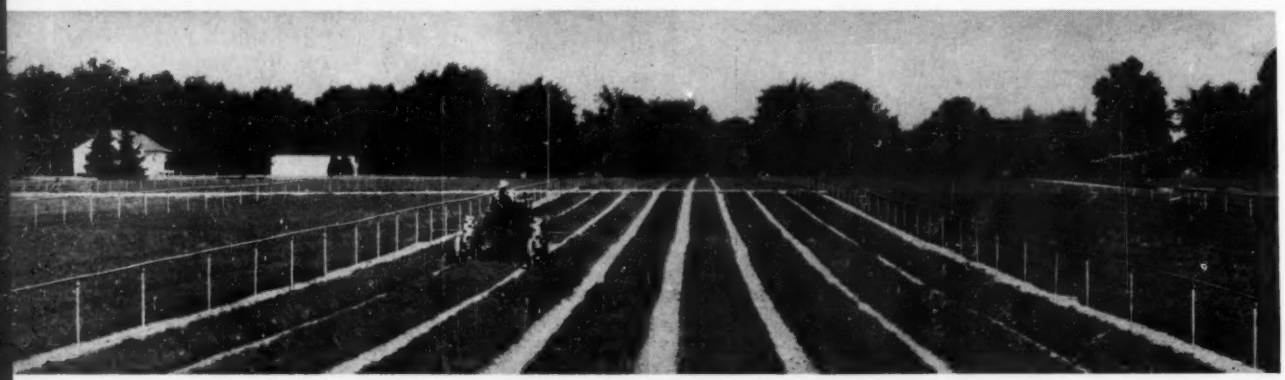
The Tennessee Valley Authority was one of the hottest of political hot potatoes during the last session of Congress. Here is the "other side" of its natural resources development program as told by a TVA official

EDITOR'S NOTE—*One of the most controversial conservation issues acted on during the last session of Congress was the appropriation of funds for continuation of the natural resources development program of the Tennessee Valley Authority. President Eisenhower, in his budget message, had requested $2,300,000 ($188,000 less than the fiscal 1953 appropriation) for this work. Opponents of the President's request contended that TVA direction of the resources development program should be terminated and that the projects should be taken over by state and other federal agencies in the area. Lined up against this were those, including The American Forestry Association, who believed that enough money should be appropriated to continue conservation projects already started until such time as orderly provision could be made for other agencies to take them over. As finally passed by the House and Senate and signed into Public Law 149 by the President, the TVA funds measure carried $1,350,000 for the resources development program.*

To find out how TVA expects this curtailed budget to affect its resources development and to ascertain TVA officials' views on how and when the proposed orderly transfer of these functions will be effected, AFA recently directed a number of questions to Willis M. Baker, director of TVA's Division of Forestry Relations. A key question asked by AFA was whether Director Baker agreed "that eventually all resource development work of TVA should be taken over by state and other federal agencies in the area."

Mr. Baker replied in a letter: "Our objective has always been to help strengthen the organization and performance of state and local agencies to the point where they could fully redeem their responsibilities. . ."

Mr. Baker's letter, not intended for publication at the time it was written, contained various other statements and facts intended to clarify TVA's participation in resources development. AMERICAN FORESTS, *with Mr. Baker's permission, here is publishing the main body of his letter in an effort to present the "other side" of the TVA question. The letter follows on next page.*



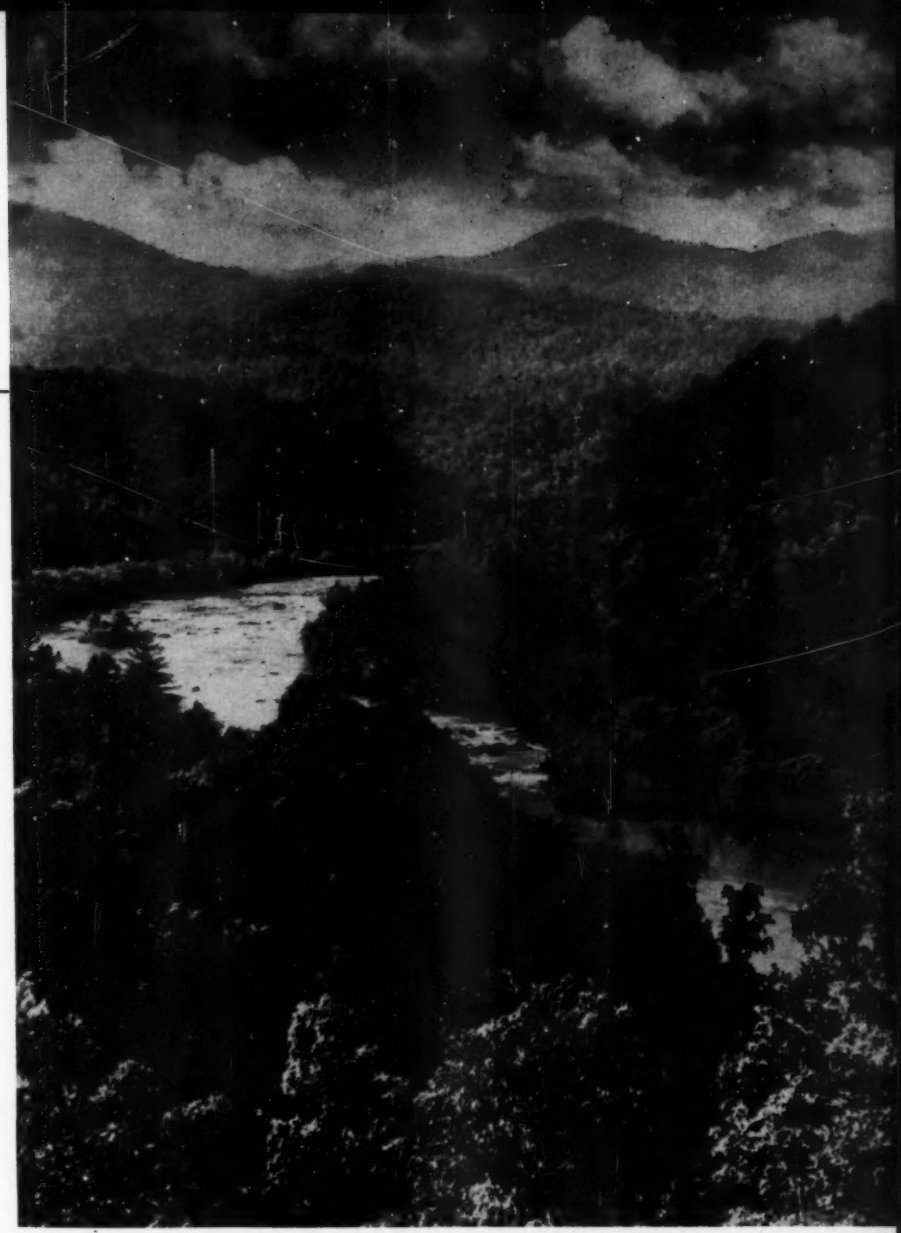
The tree nursery at Muscle Shoals. Work like this would have been stopped under proposals to eliminate funds for TVA's natural resources development

By WILLIS M. BAKER
Chief of TVA's Division of Forestry

AN EXAMINATION of a few facts relating to TVA will help you understand our position with respect to the reponsibilities and opportunities which TVA faces in the forestry field.

The Act of Congress creating the Tennessee Valley Authority directed TVA to explore, test, and demonstrate, in cooperation with other agencies, the most effective methods for accomplishing optimum development of all resources. This involved not only the initiation of improved techniques, but also the efforts of many people to put them into practice. Progress has been made in this regional demonstration for the benefit of the whole country, but the job is by no means completed.

Some people confuse the experimental and demonstrational functions of TVA with the continuing *service* functions of other agencies and therefore assume duplication. Others who favor private rather than public power development oppose TVA on this issue. Still others question the desirability of regional agencies such as TVA and fear the creation of more river valley authorities. There have been charges of usurpation of state and local rights and the establishment of a "super state," although these accusations have been refuted repeatedly and emphatically by the governors of the seven Valley states.



The Hiwassee dam site. Territory under jurisdiction of TVA boasts some of the most beautiful scenery in the country

In order to get a clear picture of our forestry work, it is necessary to examine our objectives, methods, results on their merits, disregarding for a moment the controversies and questions referred to above. TVA is here; it has been established as a regional agency and given responsibilities with respect to resource development in this area. It is an experimental device of the federal government to deal with resource problems in a particular area on an integrated basis. The forests of the Valley are one of its major resources. The Val-

Demonstration of selective cutting methods is one of many public education services performed by the TVA

ley is more than 50 percent forested. Therefore, we as foresters see here a real opportunity and responsibility to demonstrate that forestry and foresters can make a significant contribution as a part of this regional development program. As long as TVA is here and as long as it continues to operate under its present congressional charter, we sincerely believe it is of utmost importance that forestry continue to function through our pattern of assistance to state and local agencies and industries.

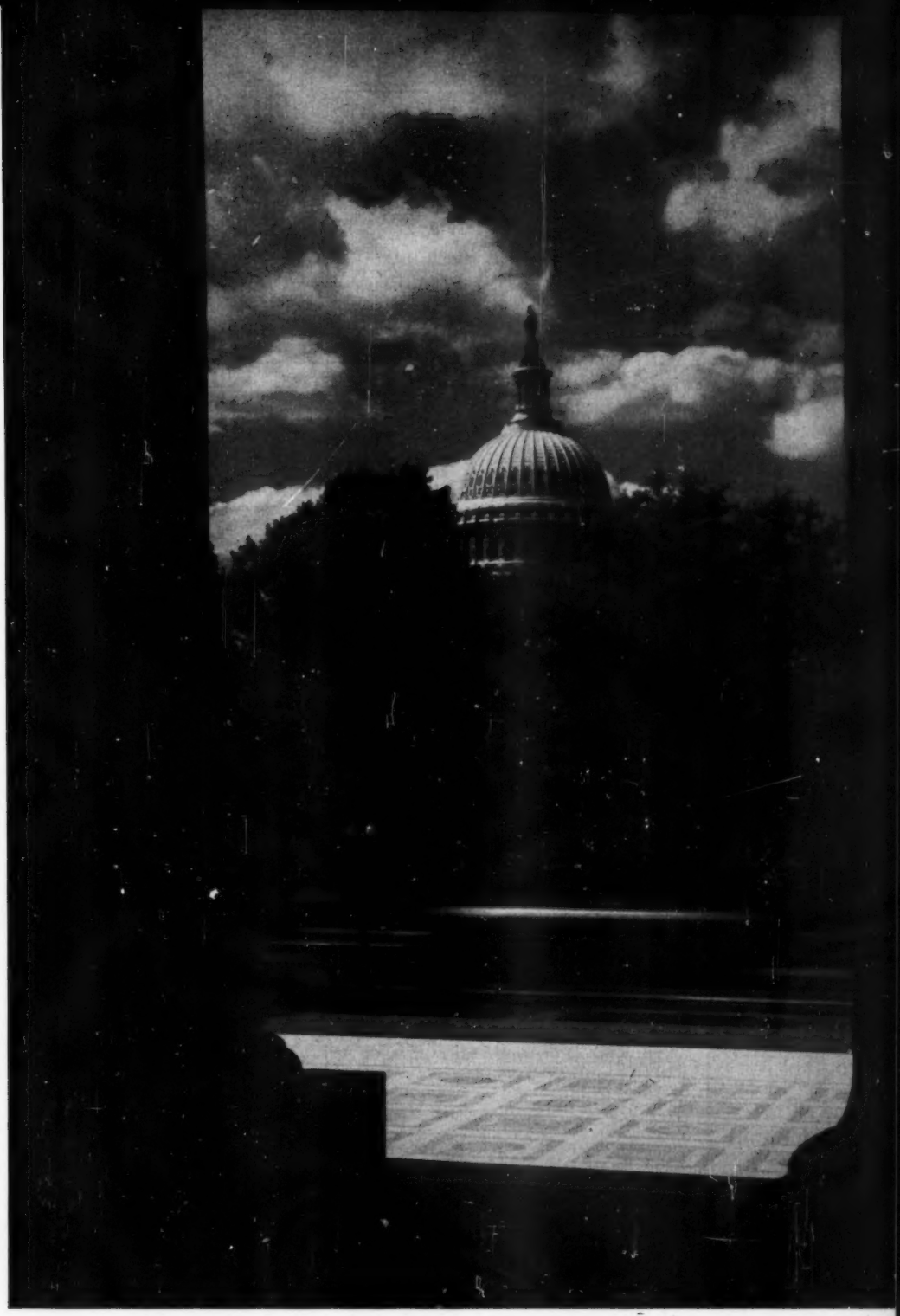
The proposal to "turn over or transfer" our resource development or forestry activities to other agencies assumes that TVA has no special or continuing responsibilities. Congress has specifically charged TVA with responsibility for the controlled development of the water resources of the Tennessee River. Large federal expenditures have been made for dams, reservoirs, and hydroelectric installations. Protection of this federal investment involves responsibility for stabilized streamflow and reduced stream siltation over the watershed portions of seven states. This in turn requires watershed protection through improved agricultural, forestry, and other land-use practices. When TVA works for more productive forests, it advances water control on the land since thrifty forests provide the most protective watershed cover. Moreover, prompt and effective action is necessary, through integrated efforts such as TVA is developing, if the public interests in this enterprise are to be fully safeguarded.

It is an important part of our job to assure that all TVA activities which do or can affect forestry are utilized in a positive direction toward forest resource development. We have attempted with considerable success to get the other agencies in the Valley who can participate in or contribute to a Valley program of forest development to get into it with their best efforts. There are now some 45 agencies and organizations contributing to the Valley forestry program. Obtaining the active participation of this many agencies and organizations is no small task. Getting them to direct their efforts to points of their greatest effectiveness plus the integration of these efforts with minimum of friction and duplication is a major undertaking in which TVA has a unique place of leadership.

Since thrifty forest provide the most protective watershed cover, TVA places great stress on good forestry practices

With the exception of the construction of major navigation, flood control, and power projects, TVA relies completely on the states, local agencies, organizations, industries, and citizens of the Valley to put into action the integrated resource development program activities. In forestry we first attempt to get basic facts about the resource, its problems, and potentialities, and what is needed to realize these opportunities. This information is made available to state and local agencies, industries, and individuals. We have helped these groups to analyze situations. We have helped them to organize people and resources, and have made funds available to the states over periods of one to five years to help on some of the more critical problems such as in fire control. At no time and in no place have we assumed or usurped state or local responsibility for the job of effectuating the forestry program in the Valley. As we see it, this is a teamwork proposition in which we depend on and cooperate with many agencies to get the job done while we provide facts and stimulation, and try to give the whole effort some degree of integration to avoid overlapping and duplication. To me it is unthinkable that TVA, charged by Congress with the development of a river system and a watershed more than half in forest, should withdraw its active support and participation from projects that advance watershed protection and forest development. In my opinion forestry thinking and training and action are needed as an integral part of a great many kinds of enterprises (both public and private) if we are ever to bring about the degree of forest

(*Turn to page* 64)



WASHINGTON •

Conservation Capital of the World

A Report Compiled and Edited by Henry Clepper

WASHINGTON •
Conservation Capital of the World

NO CITY on earth is the home of as many agencies and organizations concerned with forestry as Washington, D. C. Eight bureaus of the federal government directly administer one or more phases of forestry activity. At least four Congressional committees handle forestry legislation. A dozen or more citizen's associations, each with specialized interests, are active in the conservation of forests for wood, water, recreation, wildlife, and other uses. Powerful trade associations support forestry through their promotion of the forest products industries. And several scientific and technical societies are engaged in particular aspects of professional education and research. The various organizations—public and private, commercial and scientific—active in forestry here are briefly described. AMERICAN FORESTS regrets that space limitations prevents a more comprehensive account of each agency.

THE AMERICAN FORESTRY ASSOCIATION

The American Forestry Association is a national organization — educational in character — for the advancement of the intelligent management and use of the nation's forests and related resources of soil, water, wildlife, and outdoor recreation. Its purpose is 1) To bring about adequate protection and perpetuation of these resources by creating an enlightened public appreciation of the need of conserving them through wise use for the present and future welfare and enjoyment of all the people; 2) To make available to Americans in all walks of life a wider knowledge and appreciation of their forests and the part they can play in the social and industrial life of our nation. Created in 1875, it is the oldest national forest conservation organization in America.

Mr. Besley

Through its magazine, AMERICAN FORESTS, The American Forestry Association provides unprejudiced influence for the development of sound conservation measures, helps coordinate public, state and federal policies, cooperates closely with federal, state, and private agencies in conservation work, and keeps the public generally informed on all phases of conservation. At the same time the Association initiates, sponsors, and carries on needed projects in conservation in addition to its regular broad continuous program of education.

In its 77 years of existence the Association has compiled a long record of efficient public service. The establishment of the U. S. Forest Service and the creation of the nationwide system of state and national forests and parks were due in no small part to the Association's efforts. Its educational work has stimulated public action and built public support for protection against forest fires and floods, for prevention and control of soil erosion, for the development of conservation policies in forest management, for the control of forest insects and diseases, and the preservation of fish and wildlife.

Membership of the Association is made up of about 25,000 men and women in every state and in many foreign countries. Don P. Johnston, Wake Forest, N. C., is president, and Lowell Besley is executive director-forester. *Address: 919 17th Street, N. W., Washington 6, D. C.*

AMERICAN FOREST PRODUCTS INDUSTRIES, INC.

American Forest Products Industries, Inc., is a nonprofit, nonpolitical organization supported by the woodland owners and wood-processing industries of the United States. As a public service organization, AFPI deals in information about forests and their wise management, and the industries that grow, harvest, and process wood crops into useful products.

Mr. Gillett

The purpose behind AFPI'S forestry program is to encourage wise woodland management to serve the best interests of the American people. The American Tree Farm System is now underway in 35 states with 4400 individual Tree Farms on more than 28,000,000 acres of tree-producing land. Keep Green forest fire prevention organizations now function in 34 states. Cash crops educational campaigns, to encourage farm woodland owners in growing and harvesting continuing crops of timber, have been completed in six states and another is underway in a seventh. AFPI sponsors a national forestry competition among more than 40,000 4-H Club boys and girls for four college scholarships each year.

The *Forestry Digest*, a monthly newsletter devoted to activities and developments in forestry and the wood-processing industries, is published by AFPI and distributed without charge to forest industry leaders, foresters, and others interested in timber growing and processing. In addition to the *Digest*, AFPI publishes *The American Tree Farmer* and a wide variety of leaflets, booklets, charts, maps, posters, and other materials for distribution to schools, woodland owners, and the general public. AFPI also produces motion pictures on forestry subjects and maintains a free photographic library for publishers and editors.

James L. Madden of Boston currently is serving his second year as president. Col. William B. Greeley, Seattle, is chairman of the board of trustees. Charles A. Gillett, Washington, D. C., is managing director.

Field offices are located in Boston, Mass.; Harrisburg, Pa.; Raleigh, N. C.; Huntington, W. Va.; Atlanta, Ga.; New Orleans, La.; Memphis, Tenn.; Chicago, Ill.; Green Bay, Wis.; and Portland, Ore. A news bureau is maintained in New York City. *Address: 1816 N Street, N. W., Washington 6, D. C.*

AMERICAN PLANNING AND CIVIC ASSOCIATION

The American Planning and Civic Association is a national organization, with a membership which extends to every state and to many foreign nations. Individuals, planning commissions, city, state and college libraries, park departments, and conservation agencies comprise the members.

The Association is dedicated to the education of the American people in an understanding and appreciation of local, state, regional, and national planning for the best use of urban and rural land, and of water and other resources; the

safeguarding and planned use of local and national parks; the wise management of national and state forests; the conservation of natural scenery; the improvement of living conditions and the fostering of wider educational facilities in schools and colleges in the fields of planning and conservation.

Through its publications, the yearbook *American Planning and Civic Annual,* which contains the proceedings of its annual conferences, and the quarterly *Planning and Civic Comment,* its members are kept informed on land and water resources, community planning, housing, park and highway development.

A citizens' planning conference is held in a different city each year to discuss planning and conservation problems.

In 1916 the establishment of the National Park Service as a bureau of the federal government was the result of many years of action on the part of the Association and other organizations. It spearheaded the passage by Congress of the Acts of 1924 and 1926 for the creation of the National Park and Planning Commission. It gave strong support to the Capper-Cramton Act of 1930 implementing the purchase of parks for the national capital region.

The Association was formed in 1935 by merger of the former American Civic Association and the National Conference on City Planning. Officers are Horace M. Albright, New York, chairman of the board; Major General U. S. Grant, III, USA (Ret), Washington, D. C., president; and (Miss) Harlean James, Washington, D. C., executive secretary. *Address: 901 Union Trust Building, Washington 5, D. C.*

ASSOCIATION OF CONSULTING FORESTERS

Founded in 1949 and incorporated in North Carolina, the Association of Consulting Foresters is an organization of professional foresters who perform services for clients on a fee basis. A basic objective of the Association is the development of competent technical services through the maintenance of high standards of performance by its members in the management, protection, and utilization of forest resources.

Mr. Hall

In addition, the Association functions as a service agency for its members by exchanging information of particular and peculiar value to consulting foresters. Through its executive vice president in Washington, the Association keeps its members informed on legislative and similar matters of interest to them.

Halsey Hicks of Brattleboro, Vt., is president. Albert G. Hall of Washington, D. C., is executive vice president. *Address: 1740 K Street, N. W., Washington 6, D. C.*

CHAMBER OF COMMERCE OF THE UNITED STATES

The Chamber of Commerce of the United States was organized in 1912 on the recommendation of President Taft, who visualized a central organization in Washington to help Congress "keep in closer touch with commercial affairs." Today the Chamber is a national federation of business organizations with a membership of more than 1,600,000 businessmen. The Chamber's president for the current year is Richard L. Bowditch of Boston. Arch N. Booth is executive vice president.

The Chamber's Natural Resources Department was established in 1921. It is concerned with those industries utilizing basic raw materials — forest products, coal, oil, natural gas, minerals and metals, water power, grazing, and land. It is a strong proponent of the wise use of all natural resources. It urges industry and government to cooperate in a program for sensible use of raw materials, such as the sustained-yield production of forest products. The Chamber functions to help local chamber committees on natural resources develop effective programs, and sponsors state and regional conservation conferences.

Each year the Natural Resources Department issues a booklet, *Policy Declarations on Natural Resources,* which is kept current. The monthly newsletter of the Department, *Natural Resources Notes,* deals with items of current interest in the natural resources field. Other publications of the Department are *Forestry Manual for Use by Chambers of Commerce, Our Renewable Resources Can Be Sustained, Government by Authorities, The Real Cost of TVA Power,* and *Our Water Resources—How Should They Be Developed?*

The manager of the Natural Resources Department is Richard W. Smith; water resources assistant, Donald W. Van Tuyl; forest resources assistant, Harry S. Mosebrook. *Address: 1615 H Street, N. W., Washington 6, D. C.*

CHARLES LATHROP PACK FORESTRY FOUNDATION

The Charles Lathrop Pack Forestry Foundation is an endowed, nonprofit organization established in 1930 and dedicated to the promotion of educational and scientific work in forestry.

Mr. Gill

Since its inauguration the Foundation has published 15 books and bulletins dealing with forest resources and their management. Its programs have included studies of small woodland ownerships, others related to industrial aspects of forestry, to land-use patterns and problems, and, in cooperation with the Society of American Foresters, to studies of state forest administration. A three-year project, completed in 1953, defined the field of forest economics research in a book, *Research in the Economics of Forestry.*

The Foundation has energetically supported the development of world forestry, and was instrumental in the creation of a Division of Forestry in the United Nations Food and Agriculture Organization. A recent activity in the international field is the founding of a Mexican Institute of Renewable Natural Resources to study ways of perpetuating and increasing the usefulness of Mexico's natural resources. The Foundation also contributes to the activities of the International Society of Tropical Foresters.

Besides its own projects, the Foundation participates in the programs of other organizations making important contributions to the same general field. Among these have been the Conservation Foundation, The American Forestry Association, and the Forest Research Genetics Foundation. It has established educational facilities at several leading forestry schools and endowed a number of demonstration forests.

Randolph G. Pack, son of the founder, has been president since 1936, and Tom Gill is executive director. *Address: 1214 16th Street, N. W., Washington 6, D. C.*

NATIONAL ACADEMY OF SCIENCES NATIONAL RESEARCH COUNCIL

The National Academy of Sciences is a private corporation chartered by the Congress of the United States in 1863 to promote science and advise the federal government on matters of science and technology. There are over 500 members of the Academy, whose president is Dr. Detlev W. Bronk.

Activities in forestry are carried on by the National Research Council, which is the operating agency of the National Academy of Sciences, established in 1916. Its purpose is to bring together scientists and engineers to deal with scientific problems and to exchange information in furtherance of research. The Research Council, whose chairman is Dr. William W. Rubey, has about 220 members but several thousand individuals and over 100 national scientific and technical societies cooperate in carrying out its program.

Most of the work of the Academy-Research Council pertaining to forestry is conducted by committees of the Division of Biology and Agriculture, whose chairman is Dr. Paul Weiss. A Committee on Use and Care of Natural Resources (Dr. Paul B. Sears, chairman) surveys the needs and methods of conserving biological resources, including forests. A joint Committee with the Society of American Foresters (E. L. Demmon, chairman) has recently been organized to survey forestry research in the United States.

A Committee on Aerobiology, under the chairmanship of Dr. E. C. Stakman, is concerned with problems of the aerial dissemination of particles including

agents of potential harm to field and forest crops, as well as with problems of plant distribution. A Committee on Land Use and Management, under Dr. L. A. Stoddart, is examining ways in which the Agricultural Board of the Division of Biology and Agriculture can contribute to the solution of problems of range and forest management. A Committee on Plant and Crop Ecology of the Agricultural Board (Dr. R. E. Cleland, chairman) studies the broad relationship of plants to their environment. *Address: 2101 Constitution Avenue, N. W., Washington 25, D. C.*

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

The National Lumber Manufacturers Association, now in its 51st year of continuous service to the American lumber industry, is a nonprofit organization of 16 federated lumber associations. Its purposes are to 1) Improve lumber industry services to the public; 2) Advance the interest of lumber manufacturers, their customers, and consumers of lumber; 3) Preserve existing markets for wood; 4) Develop new markets for wood; and 5) Maintain a healthy atmosphere within which the industry can operate in the public interest as an important segment of free enterprise.

Mr. Bodine

Services provided for the benefit of member associations include activities in building codes and related standards, technical publications, trade promotion, government and congressional liaison, public relations, law information, statistical information, forest economics, research, and maintenance of liaison with other divisions of industry with common interests. Other services are performed in behalf of subscribers representing specialized interests within the industry. The Association conducts special activities, such as tax and training programs, needed to solve current industry problems.

Affiliated with the National Lumber Manufacturers Association is the Timber Engineering Company. The objective of this service organization is the development and promotion of new wood uses, more complete utilization of wood, forest products, and their derivatives.

The Association has a staff of 50, many of whom are specialists in particular phases of the industry. The Timber Engineering Company has a staff of more than 50 people with the majority being skilled wood chemists and technicians. Ralph R. Macartney, Klamath Falls, Ore., is president of the National Lumber Manufacturers Association. Leo V. Bodine is executive vice president of the Association as well as chairman of the board of the Timber Engineering Company. *Address: 1319 18th Street, N. W., Washington 6, D. C.*

NATIONAL WILDLIFE FEDERATION

The National Wildlife Federation was developed from the first North American Wildlife Conference in 1936.

Aims of the Federation include the organization and coordination of all agencies, societies, clubs, and individuals interested in wildlife management for the purpose of "securing adequate public recognition of the needs and values of wildlife resources"; development of scientific conservation programs; presentation of pertinent facts and information to the public; cooperation with other conservation groups.

The work of the Federation is financed largely through the distribution to the public of "wildlife conservation stamps" which have been issued annually since 1938. No dues or contributions are paid by the affiliated organizations, which, in 1953, included 47 state wildlife federations or conservation leagues (only Georgia is missing) and their member clubs. Claude D. Kelley, Atmore, Alabama, is president. The conservation director is Charles H. Callison, Washington, D. C.

Publications are *Conservation Report*, a legislative reporting service, covering all bills and actions of Congress affecting soils, waters, forests, minerals, wildlife, public lands, parks, and other resource matters; *Conservation News*, semimonthly digest of news and events in the natural resource field; *Your Land and My Land* booklets, conservation leaflets, and other materials.

Sponsorship of National Wildlife week is an annual activity. In 1952 the week was devoted to the nearly extinct key deer of Florida; a special fund was raised to provide protection for the deer. In 1953 the Federation created the National Committee on the Prairie Chicken to study ways of preserving and restoring the disappearing pinnated grouse. Water pollution problems will be stressed during National Wildlife week 1954.

The Federation provides grants-in-aid to state affiliates for approved projects; four J. N. (Ding) Darling Fellowships for graduate students; one Wildlife Journalism Fellowship; and James Hopkins Scholarships for undergraduates. *Address: 232 Carroll Street, N. W., Washington 12, D. C.*

NATIONAL PARKS ASSOCIATION

The National Parks Association is an independent, nonprofit organization with international membership, founded in 1919 to guard America's heritage of scenic wilderness, with special attention to national parks and monuments, and to promote the preservation of nature throughout the world. Its primary purpose is to increase public understanding of the value of national parks and similar reservations to the physical, mental, and moral well-being of the people, and to prevent the despoilment of these areas through exploitation and destructive uses. The Association is also interested in the protection of wildlife and of natural areas, and works closely with schools and universities to promote conservation education. Membership is open to any interested person or organization.

Mr. Packard

The Association publishes *National Parks Magazine* quarterly. It also sponsored the publication of *Exploring our National Parks and Monuments* and *Exploring the National Parks of Canada*, by Devereux Butcher, the definitive books on the subjects.

Sigurd F. Olson of Ely, Minn., noted authority on wilderness preservation and especially well-known for his work to preserve the Quetico-Superior area, was elected president of the Association in May 1953. Harold J. Coolidge, expert on international aspects of conservation and nature protection, is secretary. Fred M. Packard is executive secretary, and Devereux Butcher is editor and field representative. *Address: 2144 P Street, N. W., Washington 7, D. C.*

NATURAL RESOURCES COUNCIL OF AMERICA

The Council is a private, nonprofit, national association that functions as a service agency for its members. Its aim is to advance the attainment of sound management of natural resources in the public interest, but it does not undertake to control the policies and actions of the member organizations.

Organized in 1946, the Council now comprises 39 national and regional conservation organizations and scientific societies. The Council does not require the payment of dues or assessments, but operates on voluntary contributions of member organizations.

Through the *Conservation News Service*, edited by Carl D. Shoemaker, the Council provides members with information on actions of Congress, the Chief Executive, and federal administrative agencies, affecting natural resources, and on other matters within the scope of their mutual objectives.

During recent years the Council was active in effecting closer cooperation between member organizations in the attainment of their common objectives.

At the 17th North American Wildlife Conference in Florida in March 1952, the Council presented to the nation "A Policy of Renewable Natural Resources," which was adopted previously in its 1951 annual meeting.

Samuel Ordway, of New York, is chairman and C. R. Gutermuth of Washington, D. C., is secretary. *Address: 709 Wire Building, Washington 5, D. C.*

THE NATURE CONSERVANCY

The Nature Conservancy is an independent, member-governed organization dedicated to an action program of preserving natural areas and wildlife.

It seeks to save areas that are of par-

ticular importance as living exhibits of the various forest, prairie, marsh, and desert vegetation types and areas that serve as habitat for rare kinds of plants or animals. It proposes to establish such areas in all parts of the country as wild parks and nature reserves so that they will be readily accessible to people everywhere. These areas, like museums, serve the purposes of education, scientific research, and esthetic enjoyment.

In addition, the Nature Conservancy endeavors to aid in the protection of nature through the promotion of good community and conservation planning and good land use.

The program of the Conservancy is carried on by state divisions and representatives, and by committees. The activities include 1) Research and surveys to determine needs; 2) Acquisition and maintenance of areas either directly or in cooperation with other agencies; and 3) Education of the general public. The Conservancy publishes *Nature Conservation News.*

Examples of present activities include surveys of Missouri and of the Atlantic Coast from Maine to Florida; preservation of a unique holly forest on Long Island, a wildlife marsh in New Jersey, a virgin hemlock forest in Pennsylvania, and a prairie in Illinois.

The work of the organization began in 1917 as a Committee of the Ecological Society of America. In 1946 it became an independent group and in 1950 adopted its present name.

The president of the Nature Conservancy is Richard H. Pough, American Museum of Natural History, New York; George B. Fell, Washington, D. C., is secretary. *Address: 607 G Street, S. E., Washington 3, D. C.*

NORTH AMERICAN WILDLIFE FOUNDATION

The Foundation is a private, nonprofit, membership organization that is international in character and scope of activities. Its purpose is to assist financially investigations into all phases of conservation, restoration, and management of North America's natural resources, to assist in presenting facts about wildlife and other natural resources, and to assist in providing for the training of workers in scientific methods of management of wildlife and other natural resources.

The Foundation does not publish any kind of literature, and does not conduct work independently. It merely renders financial assistance to others.

While the present organization was not incorporated until July 22, 1935, many important phases of the work have been conducted continuously by predecessor organizations since 1911.

Membership is open to individuals, firms, clubs, or associations.

The president is Max McGraw and the secretary is C. R. Gutermuth. *Address: 709 Wire Building, Washington 5, D. C.*

ORGANIZATION OF AMERICAN STATES

The Organization of American States, with a membership of 21 republics of the Western Hemisphere, promotes the economic, social, and cultural development of the nations by cooperative action. Serving as the general secretariat for O.A.S. is the Pan American Union, which through its technical facilities and services puts the programs of O.A.S. into practice.

One of the units in the Pan American Union is the Division of Agriculture and Conservation of which J. L. Colom is chief. Publications in English are issued from time to time on subjects related to the conservation of renewable resources.

Research and training in agriculture in the American republics is conducted by the Inter-American Institute of Agricultural Sciences. As one of the specialized agencies of O.A.S., the Institute is interested in the renewable natural resources, especially in the protection and utilization of forests in the Latin American Republics, and maintains a Renewable Resources Service which includes forestry. *Address: 17th Street at Constitution Avenue, N. W., Washington 6, D. C.*

RESOURCES FOR THE FUTURE

Resources for the Future was incorporated in October 1952 at the suggestion of a committee called to advise The Ford Foundation on the possibilities of research and education in the field of natural resources. Dr. Reuben G. Gustavson is president and executive director of the corporation.

Dr. Gustavson

The research and educational program of the organization is being formulated for working as much as possible through existing institutions to stimulate needed research and education rather than paralleling any work now under way. A specific enterprise of Resources for the Future is a citizens' conference on resources problems. The Ford Foundation has made an initial grant of $150,000 for the Mid-Century Conference on Resources for the Future to be held at the Shoreham Hotel in Washington on December 2-4, 1953.

Following the precedent of the governors' conference held in 1908 at the call of Theodore Roosevelt, the purpose of this conference is to cover the total range of our domestic natural resource needs and problems. In keeping with the over-all view, the participants will be drawn from all resource-related fields —from the industries that produce raw materials, those that consume them, and those dedicated to the conservation of specific kinds of resources. By providing a forum for free discussion, the conference will seek to 1) Identify the resource issues of our future; 2) Locate the gaps in our resource knowledge; and 3) Indicate the directions for private and public research and action.

The conference has the further support and endorsement of a council of sponsors, a body of some 40 organizations and individuals from business and industry, labor, agriculture, forestry, conservation, and civic groups. Chairman of the conference will be Lewis W. Douglas. The conference will record no votes and approve no resolutions. *Address: 706 Cafritz Building, 1625 Eye Street, N. W., Washington 6, D. C.*

SOCIETY OF AMERICAN FORESTERS

The Society of American Foresters is an organization of professional foresters in the United States and Canada. Founded in 1900, it has achieved general recognition as the national body which represents the profession in the United States. Its stated objectives are to 1) Represent, advance, and protect the interests and standards of the profession of forestry; 2) Provide a medium for exchange of professional thought; and 3) Promote the science, practice, and standards of forestry in America.

Mr. Clepper

Membership in the Society exceeds 9000, of whom over 90 percent are professional foresters; the remainder consisting of forest workers, scientists in related fields, and student foresters. A national meeting of the Society is held each year. Its 21 regional sections and 70 local chapters hold annual, or more frequent, meetings.

A Council, consisting of a president, vice president, and nine other elected members, all of whom serve two-year terms, is the policy forming and governing body of the Society. A national office is maintained in Washington, D. C,. and is directed by an executive secretary who is responsible to the Council for the administration of Society activities.

George L. Drake of Shelton, Wash., is the Society's president and Henry Clepper, Washington, D. C., is executive secretary.

The Society is the sole accrediting agency for professional forestry education in the United States; 25 colleges and universities are now accredited for professional education in forestry. An objective of the Society is the maintenance of professional standards according to the code of ethics to which its membership subscribes. One of the Society's current projects is a study of forestry research in America.

The Society publishes books, bulletins, and a monthly magazine, the *Journal of Forestry,* which is devoted to all branches of technical forestry. Arthur B. Meyer is editor. *Address: 825 Mills Building, 17th and Pennsylvania Avenue, N. W., Washington 6, D. C.*

WILDLIFE MANAGEMENT INSTITUTE

The Institute is a private, nonprofit, national organization supported by industries, organizations, and individuals. Its objective is to contribute to the nation's welfare by promoting better use of natural resources. Membership is open to individuals, firms, clubs, or associations.

Dr. Gabrielson

Although the present organization was not incorporated until 1946, wildlife restoration work has been conducted continuously by predecessor organizations since 1911.

Annually, since 1936, the Institute has sponsored the North American Wildlife Conference which regularly attracts 1000 or more workers in all fields of resource management and research.

An important feature of the Institute's program is to help provide training for persons in natural resources management by issuing scholarships, fellowships, and research grants. Assistance is also given in the financing of cooperative wildlife research units in 17 colleges and universities in the United States and Alaska.

Along with publication of books, the Institute distributes booklets and leaflets on wildlife management. It issues a biweekly *Outdoor News Bulletin* and publishes the transactions of the annual North American Wildlife Conferences.

Dr. Ira N. Gabrielson is president and C. R. Gutermuth is vice president of the Institute. *Address: 709 Wire Building, Washington 5, D. C.*

THE WILDERNESS SOCIETY

The Wilderness Society, which publishes the quarterly magazine *The Living Wilderness,* is a national nonprofit organization concerned with the preservation of the nation's wilderness and with the increase of knowledge and appreciation of wilderness resources.

Mr. Zahniser

Established in 1935, the Society was incorporated in the District of Columbia in 1937 to secure the preservation of wilderness, to carry on an educational program concerning the value of wilderness and how it may best be used and preserved in the public interest, to make and encourage scientific studies concerning wilderness, and to mobilize cooperation in resisting the invasion of wilderness. This program is carried on in close cooperation with other organizations, including state and regional groups.

The Wilderness Society's program is based on an understanding that human nature is such as to require for health and welfare a close relationship with the influences experienced only in surroundings that are unspoiled, wild, and natural. In such areas human beings not only can seek relief from the stress and strain of our civilized living, but also a true understanding of themselves as a part of the community of life on the Earth. Yet modern civilization is such that only the areas which are deliberately set aside for preservation can be maintained as wilderness, and The Wilderness Society is thus primarily designed to protect such areas. It welcomes members and inquiries. Howard Zahniser is the executive secretary. *Address: 2144 P Street, N. W., Washington 7, D. C.*

U. S. Department of Agriculture

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

The U. S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, is responsible for insect research, insect and plant disease control, and the enforcement of plant quarantines. In carrying out its responsibilities it cooperates with states, industries, and local groups in all of its activities, including organized control programs. A. S. Hoyt is chief of the Bureau.

Research, surveys, and technical assistance in organizing and directing forest insect-control programs are functions of the Division of Forest Insect Investigations. The Division carries on its work at 12 field stations.

Within recent years the Division has assisted in extensive control programs against the Engelmann spruce beetle in Colorado, the spruce budworm in Oregon and Washington, and the southern pine beetle in Mississippi. Each year it also assists in the control of many local outbreaks of lesser magnitude through the country.

The Division employs approximately 80 full-time, professionally-trained men. These are divided about equally between research and survey activities. During the active field season it also employs a large number of temporary assistants, usually graduates or undergraduates of forest entomology. Dr. J. A. Beal is in charge of the Division.

The Bureau cooperates with other federal agencies, states, industry, and local groups in the control of insects and diseases affecting forests and range lands. Organized control programs are now being conducted on the gypsy moth, grasshoppers, and white pine blister rust. Dr. W. L. Popham is in charge of the Bureau's pest control activities. *Address: U. S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington 25, D. C.*

DIVISION OF FOREST PATHOLOGY

The Division of Forest Pathology, Bureau of Plant Industry, Soils and Agricultural Engineering of the U. S. Department of Agriculture, is the government agency responsible for research into the cause, behavior, and control of diseases of forest trees, forest nurseries, shade and park trees, and forest products; and for forest disease surveys conducted under authority of the Forest Pest Control Act.

The work is cooperative with federal government, state, and private agencies. Field operations are carried out from 21 locations in 18 states.

Examples of disease problems under investigation include aspen and poplar diseases, blight resistant chestnuts, dwarf mistletoes of western conifers, dying of birch, elm diseases, forest nursery diseases, fusiform rust and brown spot of southern pines, heart rots and root rots of forest trees, littleleaf disease of pine, rusts of conifers, decay cull in timber trees, decays and their prevention in pulpwood, lumber, poles, posts and structures, decay prevention of wood in use by the Armed Services, efficiency of wood preservatives, and salvage period of killed timber.

Forest disease surveys are currently being conducted for oak wilt, larch canker, sweetgum blight, pole blight of western white pine, root rot of Douglas-fir, dwarf mistletoe, and forest diseases in Alaska.

Lee M. Hutchins is the head pathologist in charge of the Division. *Address: Division of Forest Pathology, Plant Industry Station, Beltsville, Maryland.*

FOREST SERVICE

Governmental forestry work started in 1876 when Congress provided for the appointment of a forestry agent in the Department of Agriculture to study and report on the forest situation. Although the first national forest was established in 1891 from the public domain, it was not until the early 1900's that the forest conservation movement got its big impetus under the leadership of President Theodore Roosevelt and Chief Forester Gifford Pinchot. That was when (1905) the Forest Service was established as a bureau of the U. S. Department of Agriculture, and the forest reserves were transferred to the Department of Agriculture from the Department of the Interior and put under administration of the Forest Service.

Mr. McArdle

The activities of the Forest Service have developed along three main lines: 1) The protection and administration of national forests; 2) Cooperation with the states and with private owners to promote the protection and management of state and private forest land; and 3) Research as a sound basis for American forestry practice.

All the early national forests were in the western states. To provide for national forests in states east of the Great Plains, Congress in 1911 enacted the Weeks Law, authorizing purchase of

lands by the federal government to protect watersheds of navigable streams.

Today there are some 150 national forests, comprising more than 180 million acres in 39 states and in Alaska and Puerto Rico. They are managed for a continuous yield of resources and services for the benefit of all the people. They include every kind of forest from scrubby pine and juniper to old-growth stands of big timber.

A keynote of national-forest administration is "multiple use"—management of the forests for the development and use of *all* their resources, not just for the exploitation of one or two of them. Thus the national forests are administered to yield a permanent supply of timber and to provide outdoor recreation for millions of people. They contribute to livestock production by providing seasonal grazing for domestic livestock. They have great wildlife resources, and provide public hunting grounds and fishing areas available to all citizens. Mineral resources may be developed under leasing or patenting arrangements. Most important of all, they are managed to exert a maximum effect in watershed protection for the conservation of water supplies and prevention of floods.

National forests protect the headwaters of many important streams. They are the source of water for thousands of cities and towns, for a major part of the irrigated agriculture land of the western states, for hundreds of power developments and thousands of industrial plants.

Receipts from timber sales, grazing fees, and other special uses on the national forests last year totaled more than $70 million. They exceeded all appropriations for protection and development of the forests, and nearly equaled expenditures for all purposes, including payments of 25 percent of gross receipts to the states for local county road and school funds.

The Forest Service cooperates with the states and with private owners in developing organized protection against forest fires. It also cooperates with the states in producing trees for reforestation and shelterbelt planting on farms and other private forest lands. A third field of federal-state cooperative activity provides on-the-ground technical advice and assistance to forest landowners, especially the owners of small woodlands, on problems of timberland management and the marketing of woodland products. There are four and a quarter million owners with small forest holdings, averaging a few dozen acres each. These smaller holdings account for three-fourths of all privately-owned commercial forest land in the United States.

Basic to these programs of better forest management both on public and private lands is the program of research. The Forest Service conducts investigations on many problems concerned with the growth, protection, and harvesting of timber, with the management and improvement of range lands, with watershed management and the influence of forests on water flows, and with financial and economic aspects of forestry.

This work is conducted at 12 regional forest and range experiment stations and at numerous experimental forests and local research centers. A nationwide forest survey is in progress which will provide an inventory of the country's resources and a sound basis on which to build future forest policies. At Madison, Wisconsin, is the Forest Products Laboratory, the world's first and largest institution devoted exclusively to the study of wood.

As an organization the Forest Service is decentralized; all but about 400 of its 9000 employees are at field stations. About one-third of its personnel are professionally educated.

According to Dr. R. E. McArdle, chief of the Forest Service, the basic philosophy behind Forest Service policies and activities is that forests, rightly managed, can contribute greatly to human welfare. In the year the Forest Service came into being a guiding principle set up for the administration of the national forests was that the land "is to be devoted to its most productive use for the permanent good of the whole people. . . . Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good for the greatest number in the long run."

Both in administering the national forests and in its work to encourage sound management of private forest lands, that has been the policy of the Forest Service for half a century, and that is its policy today. *Address: Forest Service, U. S. Department of Agriculture, Washington 25, D. C.*

SOIL CONSERVATION SERVICE

The Soil Conservation Service was established April 27, 1935, for the development of a long-time program of soil and water conservation. Its primary function is to furnish farmers and ranchers with the on-site technical assistance they need to improve and protect their land. Such assistance is supplied, upon request, in three phases.

The first is a scientific inventory, made by the Service's technicians, of the farm's soil and water resources for use in developing a plan for conservation farming. The second phase consists of assistance to the farmer in determining uses and treatments for the land, and in making a plan to protect the land, increase per-acre yields, and aid in solution of watershed or other resources problems of the community. Third, the Service provides technical help in applying practices to the land, such as water-control, drainage and terrace systems, and certain crop, pasture, woodlot and wildlife practices that are essential features of the conservation farming plan.

The Service maintains a Washington, D. C., office, seven regional offices. and 51 small state and territorial offices which perform technical and administrative functions and provide service for the area and work-unit field offices. Each of the approximately 300 area offices supervises several of the 2900 work units. Each work unit is staffed by a professional conservationist and one or more aids who work directly with district and other farmers. About 90 percent of the Service's personnel are located in the smaller towns and communities, working from day to day with farmers and ranchers.

The Service's field of operations is the 2500 locally directed soil conservation districts which farmers and ranchers have organized in all states and territories. These districts now cover 80 percent of all our agricultural land and include 85 percent of our farms and ranches. In addition, the Service assists farmers outside the districts who are applying permanent-type conservation practices with financial assistance from the Department's Agricultural Conservation Program.

Responsibility is lodged with the Service for administering the flood control and river investigation activities of the Department of Agriculture, and for the land-utilization program dealing with improvement and use of submarginal lands acquired by the federal government. Research in connection with water use and conservation, sedimentation, hydrology, and the economics of soil and water conservation is conducted by the Service in cooperation with state experiment stations and other scientific agencies.

In a broadly coordinated program the Service works toward the goal of conservation of all agricultural lands.

Dr. Robert M. Salter is chief of the Service. *Address: U. S. Department of Agriculture, Soil Conservation Service, Washington 25, D. C.*

U. S. Department of the Interior

TECHNICAL REVIEW STAFF

The Technical Review Staff was activated in the Department of the Interior on June 24, 1953, to provide an advisory group of technical experts available to the Secretary, the Undersecretary, assistant secretaries, and bureau chiefs. It concerns itself with the study and review of proposals covering minerals, power, water, land management, community services, economic-statistical analysis, and defense production.

Included within the broad category of land management are all phases of forest management of concern to the Department. Two active forestry programs are presently supervised: white pine blister rust control and forest pests control, funds for which are provided for the Department of the Interior in the annual supply bills of the Department of Agriculture.

Furthermore, all interagency coordination at the Department level on pro-

gram and policy matters, dealing not only with these two programs but with all forest and allied resource management and protection matters, is handled by the Technical Review Staff.

John F. Shanklin, who formerly handled these matters, continues to be responsible for such activities under the immediate direction of John G. Marr, director of the Technical Review Staff. *Address: Technical Review Staff, Office of the Secretary, U. S. Department of the Interior, Washington 25, D. C.*

BUREAU OF INDIAN AFFAIRS

A forestry organization was first established in the Bureau of Indian Affairs in 1910. For several years the organization consisted of but two trained foresters with headquarters in Washington, supplemented by several practical woodsmen located on Indian reservations where logging operations were in progress. The early work consisted largely of the supervision of sales of Indian timber and in the development of forest fire protection organizations on the reservations.

Intermittent and sporadic development has characterized the growth of the organization. Two world wars and the continuing demand for timber products have stimulated the expansion of timber sales business and helped to gain recognition of the need for more intensive forest protection and management. In 1930 the administration of grazing was made a responsibility of the Forestry Branch and shortly thereafter the organization was given its present name, Branch of Forest and Range Management of the Bureau of Indian Affairs.

This branch now numbers 232 yearlong employees, including 125 technically-trained foresters and range conservationists. Only eight of these employees, however, are stationed in Washington. The other 224 are located at 46 different Indian reservations and field offices.

This organization, as a Branch of the Bureau of Indian Affairs, Department of the Interior, has responsibility for the protection and management of over 50 million acres of forest and range land on Indian reservations. The work includes the protection of these lands from damage by fire, insects and disease, the making of timber sales, and the supervision of timber cutting and the administration of grazing use.

Harold L. Weaver is acting chief of the Branch of Forest and Range Management. *Address: Bureau of Indian Affairs, U. S. Department of the Interior, Washington 25, D. C.*

BUREAU OF LAND MANAGEMENT

Established in 1946, the Bureau of Land Management resulted from the merger of two bureaus of the Department of the Interior—the General Land Office and the Grazing Service. The Bureau administers various laws relating to the management of the public domain, including mineral, grazing, and homestead laws.

Mr. Horning

Responsibility for the management, protection, survey, and disposal of the natural resources of certain federal lands, equal in area to one-fourth the continental United States, is lodged with the Bureau. In all, some 470 million acres of land in 26 states are under the jurisdiction of the Bureau, including 290 million acres in Alaska.

As manager of 170 million acres of public range, the Bureau through its Division of Range Management, issues grazing leases and permits, and carries forward an extensive program of range improvement, including soil and moisture conservation, and wildlife management.

Through the Division of Forestry, the Bureau has embarked on a sustained-yield program of management on commercial timberlands under its jurisdiction in the United States and Alaska, including the valuable 2.6 million acres of old-growth Douglasfir on O & C lands in Oregon. Singly, or in cooperation with other forest protection organizations, the Division of Forestry undertakes the protection of these lands, which are managed for watershed and recreational values as well as for timber production, from fire, insects, and disease.

Forest lands with commercial sawtimber administered by the Bureau total 47 million acres and 260 billion board feet. Because much of this timber is overmature, its early harvesting is desirable. In Alaska, the Bureau has a special fire prevention and control problem on 125 million acres of forested land, and some 1000 million acres of brush land and tundra.

The Bureau maintains seven regional field offices as well as 12 district forestry offices in four states and Alaska.

Edward Woozley is director of the Bureau. Walter H. Horning is chief of the Division of Forestry. *Address: Bureau of Land Management, U. S. Department of the Interior, Washington 25, D. C.*

FISH AND WILDLIFE SERVICE

One of the oldest scientific agencies of the federal government, the Fish and Wildlife Service of the Department of the Interior, was formed on June 30, 1940, by merger of the Bureau of Fisheries, established in 1871, and the Bureau of Biological Survey, in 1886. The Service has 3453 employees on its rolls; 325 in the Washington, D. C., area, and the remainder in field stations located in every state and in Alaska and Hawaii. Regional offices are located in Portland, Ore.; Albuquerque, N. Mex.; Minneapolis, Minn.; Atlanta, Ga.; Boston, Mass.; and Juneau, Alaska.

The Service formulates and enforces regulations for the hunting of migratory waterfowl, for commercial fishing in Alaska, and for sport fishes and fur and game animals in Alaska. It protects Alaska's fur seals; operates 99 fish hatcheries to propagate food and game fishes for stocking public waters and farm fish ponds; administers 272 refuges to protect migratory waterfowl and other wildlife; and controls predatory animals and injurious rodents.

In the field of research, the Service conducts fishery studies to improve methods of capture, preservation, utilization, and marketing of fishery products; conducts technological and biological research on the various forms of fish and wildlife to learn their habits, needs, and economic utilization; and conducts river basin studies. *Address: Fish and Wildlife Service, U. S. Department of the Interior, Washington 25, D. C.*

NATIONAL PARK SERVICE

The National Park Service was established by Congress in 1916 "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Preservation of the areas and objects of the National Park system is coupled with the obligation to make them available for the enjoyment of all. Many difficult problems are involved to deciding when preservation must be carried out in fullest measure, and when a minimum of modification must be permitted to provide accommodations for visitors, to enable them to enjoy the parks, the primary purpose behind their establishment.

Leadership of the National Park Service in recreation planning has resulted in cooperative relations with other agencies of government and helped to build a sound park and recreation program for our people.

Today the Service administers 180 areas comprising 24,000,000 acres of land, a dramatic presentation of the country's areas of scenic, historic, and scientific interest. They tell the story of development in human and natural history to more than 42,500,000 visitors a year.

A permanent staff of 3000 employees augmented by 1200 man-years of seasonal help provide access roads, parking areas, supply water and sanitation, electricity, campgrounds, museums, rangers and naturalists to protect the natural features, the lives and property of visitors, and add to their enjoyment and inspiration through conducted hikes and campfire talks.

The National Park Service publishes 153 free informative folders and many publications on natural history and history of the various areas.

Conrad L. Wirth is director of the Park Service. Lawrence F. Cook is chief forester. *Address: National Park Service, U. S. Department of the Interior, Washington 25, D. C.*

Timberline Trees

By JOAN PARRY

WE WERE some 11,500 feet up, at timberline. Nothing moved, no animal nor bird; nothing except the wind, sweeping across the mountain wilderness, whistling through the wind-pruned branches of the bristle-cone pines, ruffling our hair.

Across the mountainside a fallen forest of seemingly dead trees lay like a herd of whales stranded by the sea-going tide.

"How old are they, George?"

"Hundreds of years old, maybe."

"What happened?"

"Perhaps," he replied, "a great ice storm felled them. They lie for hundreds of years preserved in their own pitch. The ground drifts and stabilizes among them. They don't shatter, you see, but lie of a piece. Wind and weather whittle them. Look here, what do you make of this?"

"That? why a puffin, just a plain puffin!"

"And this?"

"A boar's head."

There were strange skeletons of trees, twisted and contorted; ghoulish faces of birds and animals, and hollow-eyed masks of mountain men.

We had been photographing and walking since early morning, sometimes straying off on our own, drawn on by one face or another, sometimes both making for the same oddity that we saw ahead, flung up and fantastic against the sky.

"Here, come here," George shouted across to me, and I heard him chuckle to himself as I came up. "What do you make of this one?" he asked triumphantly. "Look here, lie down and look up at this angle."

"No," I replied, "I don't have to do anything but look from where I am. It is the dragon of the mountain, a prehistoric animal. I think it's fearful. I don't like it. I want to go down now, right now."

And it was not until I had my hand upon the trunk of the living tree, on the twisted, swirling honey-colored trunk of the bristle-cone pine that I was happy and confident again, looking through its branches to the blue Colorado distance and the winding mountain road that had been made by living man.

Timberline serpentine—wilderness dragon ▲

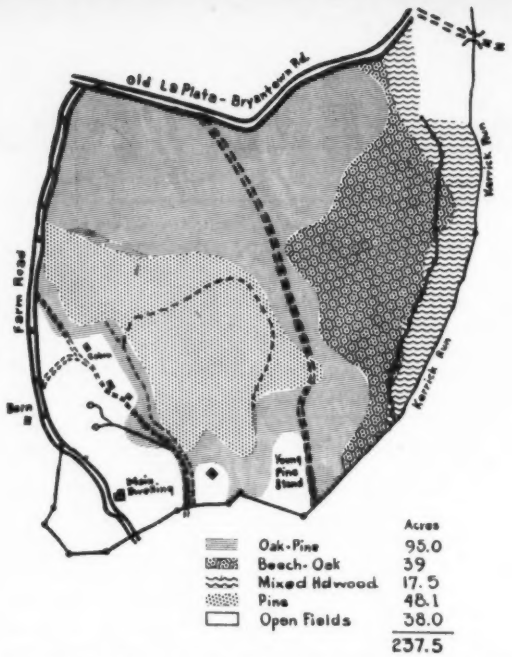
◀ A plain puffin at 11,500 feet

This one's flung up and fantastic ▶

▼ Boar's head, replete with tusks

The consulting forester, unique in the profession of forestry, is coming into his own as the man who turns problems into profits

By A. G. HALL



Furnishing timber owner with rough map like this often is part of service offered by the consulting forester

Other Peoples Problems—Our

THE most problem-beset individual in the profession of forestry is the consulting forester. For, when a forester leaves the shelter of the regular payroll, be it governmental or private, to embark on a career as a private consulting forester, he must face the stark realization that clients will seek him out only when they have a problem that they themselves cannot solve. If it were easy they'd do it themselves.

The successful consulting forester, therefore, is the man with technical training and experience, business sense, and dogged determination sufficient to take other people's problems and convert them into opportunities for himself and profitable ventures for his clients. As a forester, he has dedicated himself to the perpetuation of the forest resource, to the growing of continuous crops of timber and to maximum development of the various benefits of the forest. But, at the same time, he must recognize the needs and desires of his clients and must adapt his silvicultural practices to fit them.

The owner may be more interested in wildlife than in timber production; he may want to convert large areas of his woodland to some other use; or, he may need cash to pay off a mortgage or meet some other obligation. In such cases the consulting forester's first obligation to his client is to try to meet the client's desire or need. At the same time, he tries also to practice the best forestry. Usually, it is possible to convince the client that a sound forestry program is to his benefit. But there are times when the consulting forester, in the owner's immediate interest, will arrange for a heavier cutting than is silviculturally desirable—but this is done only after the client has been presented with the facts and the probabilities on which to base his decision.

Thus, the consultant is faced in every assignment with a new set of conditions or policies. His task is not so clear cut as is that of a public forester working on public lands or even an industrial forester working on his company lands. The public forester and the industrial forester generally have more or less established organizational policies and aims which are maintained over long periods of time. The consultant whose client says, "Here is my woodland, manage it as though it were your own," is indeed fortunate. But there are few such clients.

Let us take a look at some of the problems that the consultant transforms into opportunities.

A young salaried man seeks an investment for future realization; he wants a woodland tract at a bargain price; no immediate income is necessary, but the land should provide opportunities for recreation, especially hunting. The consultant recalls the cutover areas within a half-day's driving distance from the young man's home. Cutover land is inexpensive, if properly located it provides good cover for game, and if a moderate cut has been made there is the possibility of another harvest in 20 or 30 years. He checks with a few timber operators to learn where they have recently bought and cut timber. He visits the areas, appraises them from the standpoint of the prospective owner's desires and from the standpoint of a future timber crop. But what about taxes and interest? How much can a man af-

ford to pay for this piece or that and still have a reasonable margin of safety in a 20- to 30-year pull? After his facts are assembled, he and the client make an on-the-ground inspection of the two or three more likely opportunities. For each area the client is informed of the possibilities, the advantages and disadvantages, and the top price that he should pay. The client makes the decision. The consultant may be called upon to help strike the final bargain with the owner.

Then there is the matter of survey. If the consultant is a registered surveyor, as many are, he performs this service. If not, he knows reliable surveyors. When the tract was first selected from among many by the consultant, he had in mind its management possibilities. These are now put into a definite plan. Cultural work is lined-out for the client to perform on his weekend and vacation visits to the area. *Net result*: A satisfied client and another hundred acres or two growing timber for the future on a sustained-yield basis.

• • •

Opportunities

A farm-estate includes 500 acres of timberland on areas too rough for agriculture. The estate has a farm manager and a plan for raising and marketing agricultural crops and cattle; but the woodland has not been touched for 60 years or more. Rumors of high stumpage prices have raised the hopes of the owners. Eight years ago they were offered $3000 for the cutting rights. Possibly they are worth double today. How to find out? The consulting forester makes a one-day reconnaissance and appraisal, and presents the estate with a rough plan. More than 5000 feet per acre could be removed in a sale; but much of the presently merchantable material is still thrifty and is putting on a good rate of interest. Unless the estate must have the money from a total sale, the best plan would be to harvest only the more mature elements. Why not put the area under a long-term management plan, with periodic cuts based on ten-year intervals? The farm area has a management plan and a farm manager. Why not have one for the timbered area? Still a bit skeptical, the owner agrees to a short-term plan. This provides for the first cut—at the discretion of the forester as to the volume to be removed. If this works out, the owners will be susceptible to a longer management agreement.

The forester gets to work, mapping and producing an inventory, checking growth rates, etc. He selects 300 of the 500 acres and marks for cutting a total volume of 1,100,000 board feet. On those 300 acres he leaves a residual stand of more than 2,000,000 feet of material that is presently merchantable, but still growing at a high rate of interest each year. Released by the cutting of the older material these younger trees should respond to even greater growth. But the consultant's job doesn't end here. He is now the manager of the area. He must find a market for the timber. Who can best use the marked trees? Who will cut them with sufficient care to guard against excessive damage to the residual stand? The consultant has the answer to these questions. And the result is a timber sale of one million feet on two-thirds of the area at a price six times as great as the estate had been offered for all the timber eight years ago. Both the consultant

Consulting forester's reports are very specific, but must be written in language the client will understand

ALBERT G. HALL
Forestry Relations Counsel
Consulting Forester

OFFICE, STERLING 3-0883 HOME, NORTH 7-2871
1740 K Street N.W.,
WASHINGTON 6, D. C.

October 15, 1953

TO: Mr. John Doe

REPORT ON TIMBER MANAGEMENT PLAN FOR LOTS 1 AND 2

Findings:

Wooded area (exclusive of young pine thickets and brushy and open fields) -- 199.5 acres.

Field area -- 38 acres.

Map attached indicates location of field and wooded areas by timber types.

Board-foot volume: (all species: 12 inches and greater in diameter at breast height for pine; 14 inches and greater in diameter at breast height for hardwood species) -- 551,674 board feet.

See table of board-foot volumes by species and size classes, attached.

Comments and recommendations:

General: In making the inventory for the two tracts we estimated the present timber volume in the merchantable-size classes only. Stocking of pines below 12 inches and of hardwoods below 14 inches in diameter at breast height is good. With moderate cutting for harvest and for release of some of the younger material, the stand throughout the area is capable of continuing to produce crops of desirable tree species. The hardwoods, generally, are not yet ready for cutting. Note that the total volume in hardwoods above 22 inches in diameter is only 26,666 board feet. This volume is scattered over considerable area. While the hardwoods above 14 inches are merchantable, and constitute considerable volume, we would not recommend their cutting at this time. The higher values are in the larger material. It will pay to wait a matter of four or five years until some of the 16- to 20-inch material moves up into the 22-inch and greater classes. A cutting is recommended, however, in the pine areas.

and the owner are in business. The remaining 200 acres will be marked for another sale five years hence, after which it will be time to consider a cutting in still another five years on the original 300 acres. Surely the whole area could have been cut in one operation—down to the least merchantable stick—but the estate would have been out of the timber business for a generation or two. Now the estate is in the timber-growing business. It is *tree farming* as well as cattle and crop farming.

• • •

A country club has a wooded stand of tulip poplar, most of it old growth; the edges of the stand each spring display the beauty of hundreds of flowering dogwood. The stand is right on the edge of the golf course. The club management sees the desirability of a timber cut to remove the old-growth poplar before it deteriorates, but it is insistent that the beauty of the area be maintained. Obviously no sawmill can be erected on the area. The owner's problem? The forester's opportunity! To provide a good seed bed for restocking the area with poplar, the forester knows he should create large openings and rough up the soil a bit. Practically a one-story stand of old growth, it calls almost for a clear cutting—or at least clear cutting by blocks. But this would create an eye-sore. So by skillful maneuvering and marking, he makes the openings within the stand—marking groups of trees which can be cut as groups and felled so as to do little or no damage to the uncut trees.

Slash disposal is another problem. Large tops may not be left in the woods where they might show for years as skeletons of the original stand. The answer to these problems lies in the sales arrangements. The forester seeks two buyers to work the area jointly—one a veneer operator and one the owner of a small mill. The veneer man will take all the larger material, and the small mill man can utilize the tall poplar stems down to about eight inches in diameter. As a condition of sale, the unused tops must be lopped down, the dogwood must be preserved. These conditions reduce the stumpage value, but both the operator and the forester can understand the client's point of view. The forester goes over the stand with the operator and indicates how and where the trees are to be felled. All this is costly; the client realizes the costs of careful logging, but this is a peculiar situation. The job is done, the client is satisfied, and both the careful operator and the forester who lined out the work receive considerable advertising as a result of it.

• • •

Another owner wishes to engage in the actual harvest and sale of logs from his area. That is, he wants a man to undertake the job for him. So he hires a consulting forester who, under contract arrangement with the owner, selects the trees to be cut, lays out the logging plan, engages the services of contract loggers, finds the best markets for the better logs, and, in order to utilize the rougher and smaller logs at a profit to the owner, hires a small mill operator to cut rough green material. Operating as a partner with the client, the consultant finds himself in more than just forestry; he is the manager of a small industry.

Not all the consulting forester's work is performed for nonoperating landowners, although as more and more landowners are discovering the possibilities in their woodlands, both large and small, the consultant's field is expanding in this direction. No acreage is too small, none is too large, apparently, for the consulting forester. If the owner has a problem the consultant is ready to tackle it. A recent survey conducted by the Association of Consulting Foresters shows jobs ranging from two acres on upward. The average area involved was 284 acres. One-third of the tracts handled by consultants are less than 50 acres each, half of the jobs were performed on tracts of from 50 to 300 acres each, and less than a fifth of the jobs involved tracts over 300 acres.

The high frequency of the small woodland owner among the consultant's clientele indicates that even the small owner can afford to hire forestry services. Obviously, some of the smaller cases are handled at a loss by the consultant—just as the grocery store proprietor often makes small sales at a loss. But as a businessman, the consultant takes the small with the large, for he knows that a satisfied client, even at a cost, is good advertising for himself and for forestry.

Although he is a businessman, the consultant rarely loses his forestry zeal or his firm belief in *service*. Several years prior to his death, the late James W. Girard, probably America's top-flight consultant, and one who certainly could afford to be "choosy" about the cases he accepted, told this writer that he was working about 25 percent of his time on small cases which he handled free, because "they develop into good business accounts later." Good business accounts for Jim Girard? No! Jim was thinking in terms of the younger foresters coming along behind him. It is difficult to amputate the public service arm of any forester. It is a fair assumption that more consultants have failed in business because they did not charge enough for their service than have failed because their fees were excessive.

However, as probably the epitome of private enterprise in forestry, the consultant generally dislikes even the concept of "free public services" supported by tax revenues. He realizes that no public service is really "free." And he believes that forestry will grow as a profession only as fast as it can pay its way. In spite of his

(*Turn to page* 80)

CHART PROVIDES OWNER WITH SPECIES-BY-SPECIES BREAKDOWN OF TRACT

Species	Area	Diameter Classes				
		12"	14"	16-20"	22" & up	Total
Poplar	151.5		14,465	51,891	9,168	75,524
White Oak	134.0		46,041	65,745	2,367	114,153
Red Oak	95.0		29,878	49,418	4,337	83,633
Beech	39.0		22,515	47,536	10,794	80,845
Gum	151.5		6,891	11,040	----	17,931
Misc. Hdws.	56.5		2,038	8,113	----	10,151
Total Hardwoods			121,828	233,743	26,666	382,237
Virginia Pine	143.0	49,101	----	----	----	49,101
Loblolly Pine	25.0	23,936	29,472	43,664	23,264	120,336
Total Pine		73,037	29,472	43,664	23,264	169,437
Total—All Species		73,037	151,300	277,407	49,930	551,674

. . . *Trees and Birds*

By R. R. FENSKA

OUR life is so complicated we do not always realize what a chain reaction we sometimes set off by a simple act. For instance, few people realize the extent to which birds influence our lives. Kill off the birds and you make it impossible for human beings to survive on this earth. When you visit Salt Lake City you will see the only monument erected to a bird. During the early settlement of that region the success or failure of the crops meant life or starvation to the pioneers of that area. Just when it looked as if the crops would be plentiful there appeared, without warning, swarms of locusts (some say crickets) on the horizon which swooped down on the fields and soon were in the act of ruining every acre of grain. The pioneers were helpless. They just couldn't combat those millions of bugs. They knelt and prayed in the fields. Suddenly they heard a "swoosh" and looking up saw descend from the sky a flock of birds. The manner in which these unexpected "friends" devoured the multitude of unwelcomed insects made them feel the Lord had answered their prayers. Hence, the monument.

With the destruction of the forests in some parts of our country there has followed, as a result, the diminution of many of our friendly birds due to elimination of their homes and nesting places. Some birds feed upon insects; others, on seeds, fruits, buds or even leaves when nothing else is available. While open fields, marshes and even the desert is the habitat of some birds, the majority live in woodlands, or the edge of woody swamps, young forest growth or park-like areas. Anything that will give protection and supply food will encourage bird population. Of course, instances can be cited where birds are a nuisance but the over-all facts prove they are unquestionably one of man's best friends.

How the food supply can control the abundance of birds is well illustrated by the near elimination in cities of the common English sparrow due to the passing of the horse from our highways.

Any locality with trees is always an attraction and invitation to birds. They can be encouraged to remain in your vicinity if the trees produce seeds or fruit for food. They will, besides, control the insect population on your trees in a most effective manner. We have a "balance in nature" whereby no one animal or insect can become a destructive pest or agent very long. Birds are one of the best regulators of this "balance in nature" we have. They hold in check the insects that would quickly devour our agricultural crops.

Plant trees that will provide food for birds and it is quite likely that even the bugs in your garden will be kept under control. At the same time you will protect the birds that need help to survive.

Among the trees that will provide food for birds and encourage their presence may be listed the following species:

Dogwoods—These are among our most desirable landscape trees. The red berries are sought by many birds late in summer, including the bluebird, cedar waxwing and scarlet tanager.

Mountain Ash—In central Europe this tree is known as "Vogelberrenbaum" or bird-berry-tree, which describes it very well.

Flowering crabapple—A very attractive tree when in bloom. The small colorful fruit attracts many birds, like the Baltimore oriole, while the dense crown of foliage provides protection, nesting places.

Birds, too, have mouths to feed, and to them trees offer both room and board

Japanese flowering cherries—Very striking when in bloom. The fruit is much in demand by birds, including the robin, wood and hermit thrushes, cedar waxwings, grosbeaks and orioles.

Bayberries — A small tree with waxen white berries which are a favored food of certain birds, like the warblers and tree swallow.

Service berry (*Amelanchier*) — A small tree with white flowers and blue berries which birds like, especially the cedar waxwings.

Mulberry—Both the red and the white varieties furnish food for a

(*Turn to page* 62)

It's the ANCESTOR that

Heredity, long recognized as a vital factor in the breeding of animals, now is being studied in the growing of trees. Here are two reports on the subject by leading authorities in the forest genetics field

By ERNEST B. BABCOCK

HOW WELL the forests and woodlots of America will supply our needs for wood 25, 50, 100, or 1000 years from now will depend in the long run just as much on heredity as on silviculture and other elements of the environment. This may be a new point of view to many who read this article. Although well aware of the importance of ancestry in breeding race horses or dairy cattle or Indian corn, such persons may have assumed that forest trees are more under the influence of the environment than other agricultural products and that heredity is correspondingly less important. Basically this is not true. In every kind of animal and plant the adult individual is the end product of heredity and environment interacting, and the two factors are equally important.

Our future forests can be superior to our present-day forests in many ways. They can produce a higher yield per acre of first-class merchantable timber in fewer years, starting with the seed, than has hitherto been thought possible. These much-to-be-desired goals *are* possible simply because superior performance in forest trees depends upon good ancestry just as surely as does superior performance in race horses.

The heredity-minded conservationist looks at the enormous loss of our present forests caused by insects and diseases and longs for the discovery or creation of new types of superior timber trees that shall be immune or resistant to the attacks of these parasitic enemies. He sees his farmer friends reaping the rewards of growing disease- and pest-resistant crops of many kinds. Then why not disease- and pest-resistant trees?

These alluring visions of truly superior forests for the future are not mere idle dreams of a theorist. They rest upon a solid foundation of already demonstrated facts.

First of all, there are the facts of heredity and variation. Every species of plant and animal, either wild or domesticated, is composed of individuals and the individual members of a species differ endlessly from another in their *genes*, which are the units of heredity. An individual receives one set of genes from its female parent and a corresponding but more or less differing set from its male parent. The two sets form a combination of hereditary units, and innumerable combinations are possible. The particular combination of genes that an individual receives from its parents determines its potential performance, regardless of the environment. But, if the environment is favorable, the individual's performance will of course express its maximum gene-potential.

Second, every species of timber tree has its own *reservoir of genes*. For the purpose of timber production, some genes are superior and others inferior. The great majority of the individual trees of a species are mediocre or intermediate in their genic endowment. It is only the rare individual that possesses a truly su-

(*Turn to page* 50)

t makes the Tree

By J. W. DUFFIELD

IDEAS, even the most practical, usually need years of incubation and turning over in many minds before they hatch, spread their wings, and amount to something. Look at Leonardo and the airplane, for an illustrious example. Doing something to improve the heredity of our forests has been urged by thoughtful foresters and botanists for more than a century. We are just now getting off the ground. What has been happening during the incubation period, and what sort of care and feeding will this newly-fledged enterprise require?

The idea of the species is one which has been useful to foresters as well as to all of us who depend in any way on plants or animals—and who doesn't? Yet, like many ideas, the concept of the species has often been over-simplified. We can still hear foresters talking as if they expect all the trees which they recognize as belonging to a certain species to behave in the same way in a given environment. Yet, as long ago as 1787, Von Wangenheim, a German forester, realized that there is hereditary variation within species, and urged that forest planters should take it into account. In 1831, a full 28 years before Darwin, Patrick Matthew, a British forester, proposed a theory of natural selection, based on his experience in growing trees.

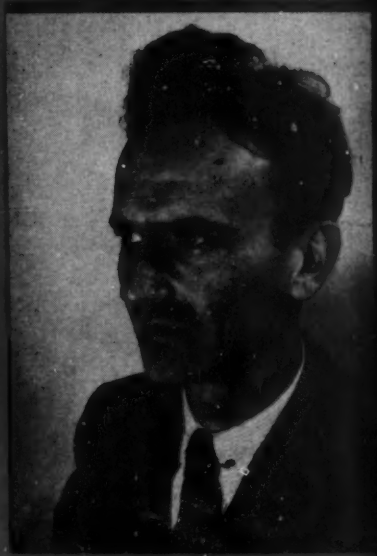
From these ideas, there developed a series of experiments set up by foresters to test the timber-producing potentials of the various local races which together make up the principal forest tree species. Generally, these experiments showed that a local race does better on its "home grounds" than does a race imported from some distance. However, this is not always true, and herein lies one possibility for improvement as well as the danger that blanket regulations prescribing maximum distances of seed transfer may hinder progress. Improvement possibilities can be seen in the fact that Douglas-fir from the Palmer area in northern Oregon out-performs Wind River Douglasfir at Wind River; ponderosa pine from the Lolo Mountains in Montana yields better than Kaniksu ponderosa pine in the Kaniksu National Forest in Idaho. Local race tests of southern pines have given us valuable leads, too.

The importance of local races, or as foresters often say, of *provenance*, is becoming generally recognized, and here and there, forest planters are actually doing something about it. Much more needs to be known, and new studies are being initiated every year. Meanwhile, another problem confronts the forest planter, for even when he has resolved to use only local seed, or seed from a particular race known to be superior, he often finds that adequate supplies of seed are not available.

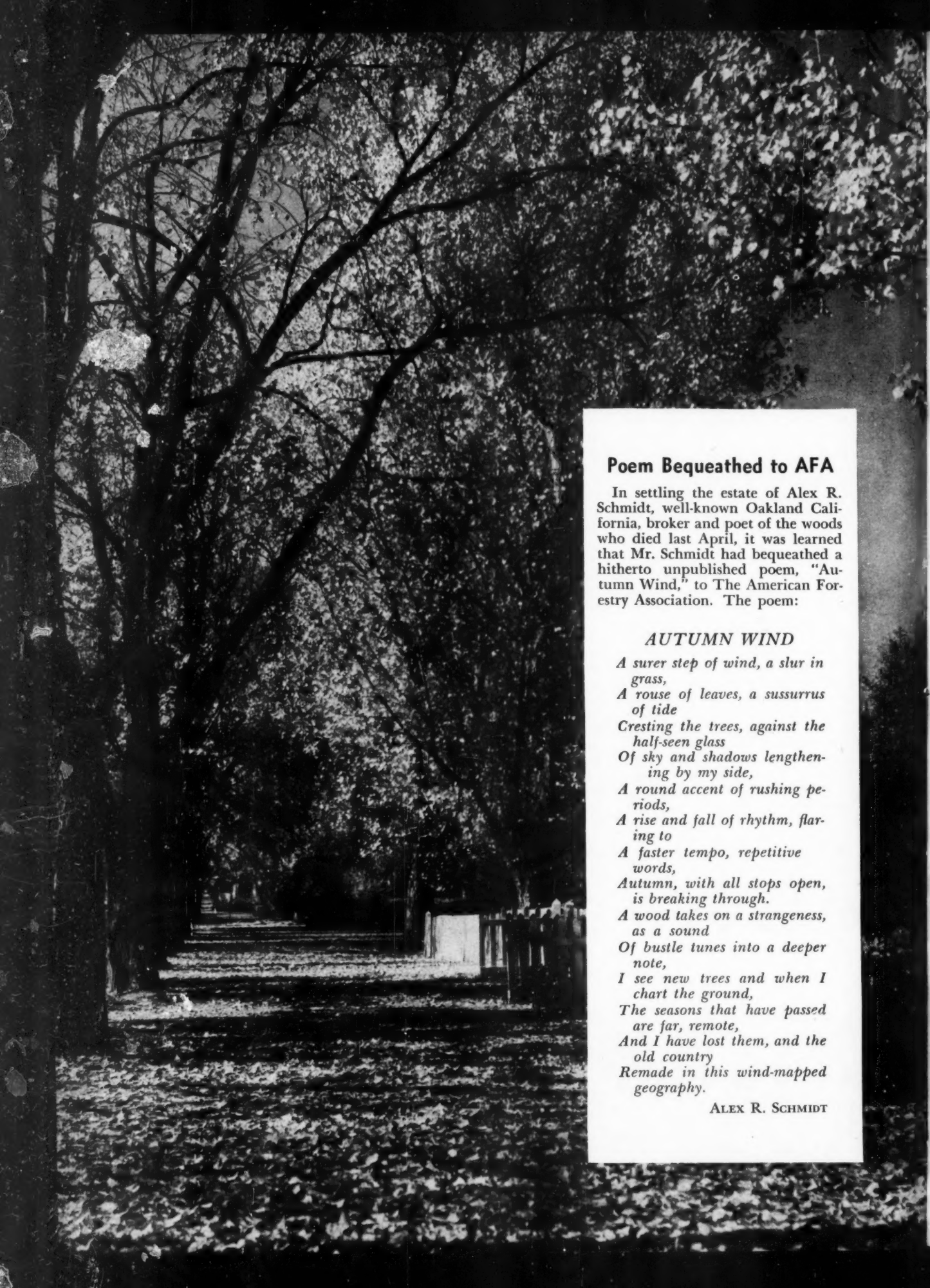
Several factors combine to make seed supplies critical in areas where there are active planting programs. First, there is the fact that most species do not produce heavy or even moderate crops of seed year after

(*Turn to page* 46)

Ernest B. Babcock, executive vice-president of the Forest Genetics Research Foundation, Berkeley, California. The Foundation is a nonprofit corporation interested in furthering research in the forest genetics field



Dr. J. W. Duffield, formerly forest geneticist at the California Forest and Range Experiment Station of the U. S. Forest Service, now is a member of the teaching staff of the University of Washington Forestry School



Poem Bequeathed to AFA

In settling the estate of Alex R. Schmidt, well-known Oakland California, broker and poet of the woods who died last April, it was learned that Mr. Schmidt had bequeathed a hitherto unpublished poem, "Autumn Wind," to The American Forestry Association. The poem:

AUTUMN WIND

A surer step of wind, a slur in grass,
A rouse of leaves, a sussurrus of tide
Cresting the trees, against the half-seen glass
Of sky and shadows lengthening by my side,
A round accent of rushing periods,
A rise and fall of rhythm, flaring to
A faster tempo, repetitive words,
Autumn, with all stops open, is breaking through.
A wood takes on a strangeness, as a sound
Of bustle tunes into a deeper note,
I see new trees and when I chart the ground,
The seasons that have passed are far, remote,
And I have lost them, and the old country
Remade in this wind-mapped geography.

ALEX R. SCHMIDT

The Charm of Chipman Hill

By VIOLA C. WHITE

CHIPMAN HILL, which narrowly escaped being called Mount Nebo in pioneer days, rises to the northeast of our little town, wooded to the summit. Geologically it is known as a "kame." The glaciers brought it. The hill consists of a loose gravel deposit formed by water that ran over the edge of the melting ice sheet, and deposited gravel and sand in layers which leaned against and filled up bays in the ice front. It is the highest kame in the United States, rising 450 feet above Main Street.

Apart from its origin there is nothing more remarkable about "Chipman" than about any other tree-bearing hill, though I belong to the type of Happy Hobo who regards every hill as remarkable that offers joy, serenity and forest fragrance to our harried generation. Perhaps on second thought a hill that can produce a fox and a ram's head orchid may be regarded as a little unusual in its own right; but it is for its commonplace and business-as-usual elements that I love it. I have walked on it every month of the year, and memory holds a series of its treasures which, though very simple, form a source of pleasure when the winter winds howl.

September 17—Spent the afternoon on Chipman, dislodged about five by a threatened thundershower. Nothing in the world ever smelled so good as the wild apple tree above the field of goldenrod before you enter the forest. At first I could see no fruit at all, for dried leaves and ash saplings mostly covered it, but in actuality every inch of ground beneath the tree was filled with apples. Heading upward I pass ripening wild grapes and fruiting sumach and all the seeding roadside weeds. What jolly little corkscrews are the seeds of the alfalfa! Strange that the daytime sun, however golden outside, when it enters the pine wood becomes white and glistening like moonlight.

I find more cohosh than I had dreamed grew on the hill, with its beautiful large berries of soft blue; and the blue berries of Solomon's seal; and the streaked red glassy berries of Smilacina Racemosa that look as if they might have smaller glass berries inside of them down to the very core. Amid the yellowing wild sarsparilla and the yet green ferns of the forest floor the *Actaea alba* raises its round white stare. What Thoreau mentions in one of his most poetical passages about the Norway cinquefoil — the bending back of the calyx to protect the seed —is true, perhaps, for all the cinquefoils. I notice it today in the rough-fruited. Raising my eyes I see a bright yellow elm bough here and there, a maple partly turned, though the prevalence of pine keeps green still dominant.

The crows were beginning to arrive when I left at five, sailing in with considerable fuss. Heard the pileated woodpecker, as I came down the slope, sounding like an old maid who had just been robbed, and, as I descended further, the full chorus of insects with a note of youth and aspiration almost like the peepers in the spring.

October 12—I have spent nearly all day outdoors, only going in for meals. Scrambled over Chipman Hill in the morning, looking for seeded orchids, — the yellow ladies' slippers, which I found, the ram's

(*Turn to page* 82)

In the joy, serenity and forest fragrance that abound a few steps from Main Street the author has found a "Walden's Pond" of her own—a source of inspiration and delight the year 'round

Spokesmen for the Budget Bureau debunk charges of a federal lands "giveaway." The Bureau, they say, is only intent on keeping Uncle Sam's holdings producing revenue

THE BUDGET LOOKS

IF THE current attitude at the Bureau of the Budget is any indication, people who have been worrying about "giveaways" of federal lands can sit back and relax. Public lands, bureau members aver, represent one segment of the government that actually makes money. And a heads-up business concern intent on balancing its budget doesn't curtail the operations of a department that is a revenue producer. Rather, it pares down on the operations of less-productive departments and concentrates on how to make the producer even more productive. Budget's interest in public lands, therefore, is in helping to devise ways and means whereby these lands can be made more productive consistent with the aims and purposes for which they were established.

Devising "ways and means" that will enable government to save money and realize a more lucrative return on its wide-flung properties is a slow and continuing thing at Budget. It's a job that is given more time than most people realize. For instance, of Budget's total staff of 452—43 less than formerly since the bureau practices the pruning it preaches — 44 are in the Resources and Civil Works Division headed by Carl H. Schwartz, Jr. All specialists, with emphasis on engineering skills, two of them, Howard E. Ball and Wesley K. Sasaki, are foresters. Recently a third forester, Robert Wolf, was added to this staff. All graduates of the College of Forestry at Syracuse, they are equipped to objectively study all measures concerning public lands, forestry and related subjects from a professional point of view.

The Resources and Public Works Department, of course, represents only one section of the bureau that is housed in the Old State Department Building, next door to the White House. Actually, there is less department consciousness at Budget than in most general bureaus. While each office and division is assigned a field in which it takes leadership, all parts of the Bureau share responsibility in varying degree in the performance of the Bureau's functions. As a result, when Budget reports on something it does so as a complete Bureau with no one division or department given special emphasis.

The key responsibilities of Budget may be grouped under four headings. They are: 1) preparation and administration of the budget; 2) improvement of government organization and management; 3) analysis and coordination of legislation; and 4) coordination and improvement of federal statistics. Specifically, it is the duty of the Bureau to assist the President in the preparation of the budget and the fiscal program for the government; to supervise and control the administration of the budget; to conduct research in the development of improved plans of administrative management; to aid the President in bringing about more efficient and economical conduct of government service; and to keep the President fully informed on the progress of the various government agencies.

Since all proposed legislation creating a charge on the federal treasury or committing the government to obligations that would later require appropriations must first be cleared through Budget, it becomes readily apparent that the Bureau must maintain regular working relationships with all agencies of the government. The normal channels in which these relationships are carried on are the five divisions of the Bureau (as shown in the accompanying dia-

gram). These are: 1) Military; 2) International; 3) Resources and Civil Works; 4) Commerce and Finance; and 5) Labor and Welfare. As a means of dealing with government-wide problems of a specialized character and of exercising certain of its functions by a single group, the Bureau makes use of four offices: Budget Review, Legislative Reference, Management and Organization, and Statistical Standards.

That the "ways and means" departments at Budget are going to be increasingly busy in future months becomes more apparent every day. Shortly after the President returned from Colorado, Sam Dodd, assistant division chief in resources, returned from a visit next door at the White House to report, according to staff members, that "He said it again." He, of course, is President Eisenhower and what he said again was that the budget *would* be balanced in due course. And it was shortly after the President's special resources message to Congress on July 31 in which he asserted that constructive efforts must be made "to improve the management and use of resources" that an expert from Budget showed up at the AFA offices for the first time within memory to ask a series of searching "ways and means" questions on the management of the nation's natural resources.

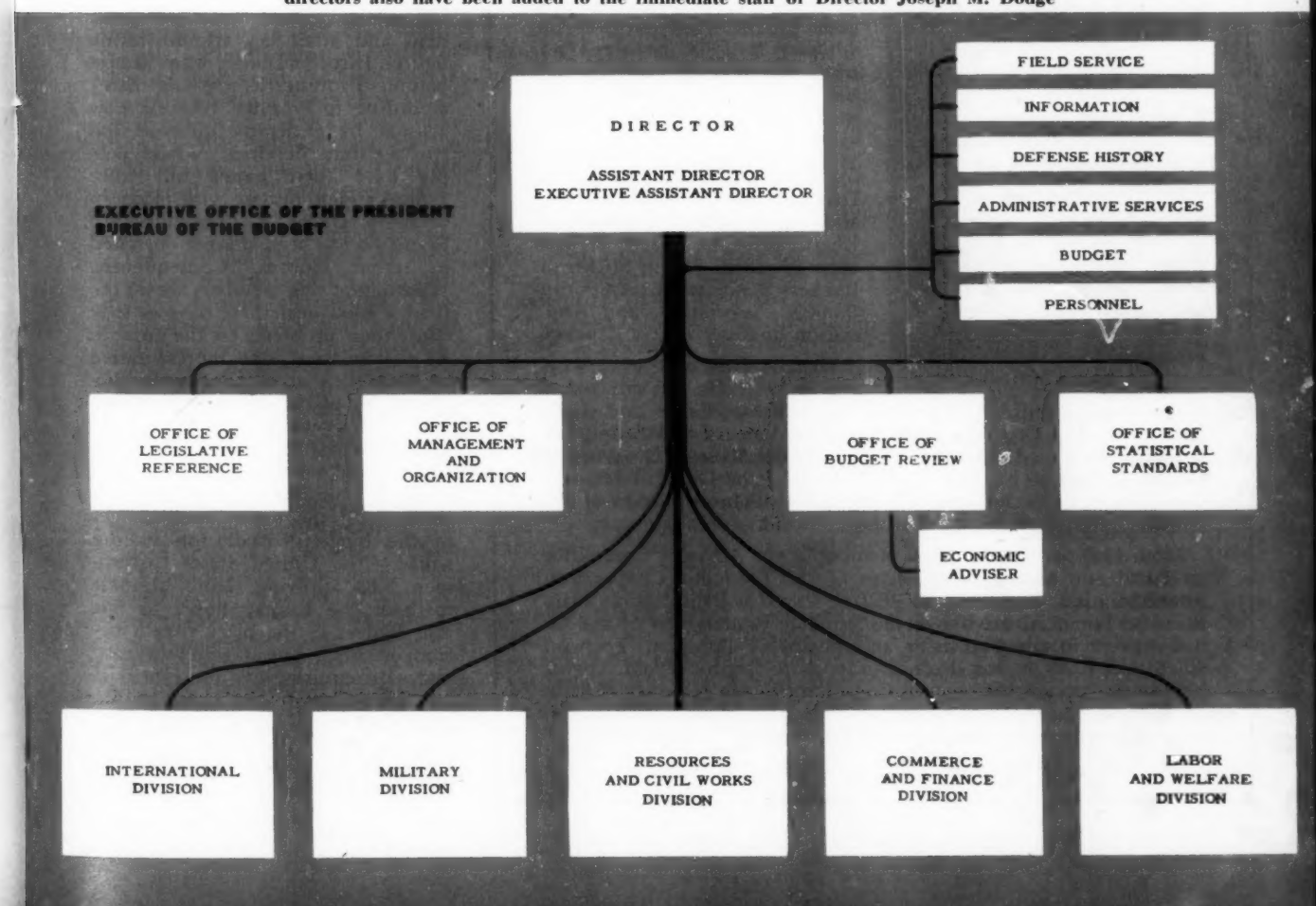
With the H bomb in Russia's hands and with the nation faced with the prospect of a greater defense effort, Budget personnel admit they are "on the prod" as they face the task of streamlining government spending operations. To do this, the Bureau knows it must resort to Spartan measures on the domestic front. Somehow, the idea must be instilled in the minds of countless agency heads who never met a payroll that in dealing with the present administration they will be telling it to the equivalent of a tough but just corporation board of directors with a tendency to ask knowing questions.

As the budget bosses of many business firms know, it is often the seemingly insignificant and hidden costs that can raise havoc with a budget. In commenting on these as they relate to government operations, Mr. Dodd recently said, "We are trying to help the agencies square these up. For example, one department dealing with resources some years ago produced an excellent and much needed map that was put on the market at cost (50 cents). It has had a big sale and continues today. And the price continued until fairly recently at 50 cents despite the fact that for several years now it has cost almost a dollar to produce a single copy. A small thing you might say. Nevertheless, the combined loss to the taxpayers ran into a sizable figure."

As regards resources on public lands, Budget's general attitude

AT RESOURCES

The field service and office of defense history (upper right) have been eliminated since this chart was drafted. A second assistant director and two deputy assistant directors also have been added to the immediate staff of Director Joseph M. Dodge



might be compared to any other business that looks with favor on departments that make money. And in the past, Budget has played a quiet but key part in helping to hike the income from public lands. It was prominent in exploring such matters as grazing fees from range lands and fees from mineral rights. It is inclined to believe that in due course all fees of this nature should be put on a more uniform basis.

It was not by chance that new impetus has been given to the construction of more access roads on western timberlands, a move that is already showing results in the harvesting of bug-infested timber. Budget is also interested in the possibility that millions of campers who flock to Uncle Sam's acres every year might be induced to pay a modest, not exorbitant fee in return for the facilities they make use of. This type of research goes on continually at Budget and often it is two or three years before the Bureau is ready to make specific recommendations.

However, the fact that many lands under Interior and Agriculture are revenue-producing doesn't blind Budget to the fact that the management of these lands is not entirely above reproach. Budget personnel refer to the findings of the first Hoover Commission in citing that in no area of government operations is duplication and overlap more pronounced than in management of some of these resources. The reactivation of the Hoover Commission, with which Budget will work closely, may tend to correct some of these conditions. Then too, some of the government agencies have not been examined quite as closely in the past as Budget now feels may be necessary. As one staff member commented, "It is not always wise to regard any one agency of the government as entirely sacrosanct. It's like any other business—the operations of any department, no matter how successful and revered, should be reviewed from time to time."

Conceivably, specialists shouldered with the awful task of squaring up a budget that hasn't been balanced within the memory of most people, might tend to give certain groups with big revenue-producing potential special consideration on public lands. However, this is not the case. The broad view on public lands is very much in evidence at Budget where watershed, recreational and other uses are all viewed in proper perspective. For instance, the fact that balanced lives for people is as essential as balanced tax budgets, important as the latter are, is recognized at Budget where the staff members show tremendous enthusiasm for the recreation potential of public lands in a nation with a rapidly-growing population.

The Bureau's executive direction and internal administration are carried on by the Office of the Director, Joseph M. Dodge, Jr., a man who is in constant contact with the President and other key administration figures. Director Dodge, who "almost became a forester as a young man," according to Forester Wolf, is now assisted by a deputy director and two assistant deputies. These people have their hands full since Budget's Field Service with offices in Chicago, Dallas, Denver and San Francisco has been sharply curtailed in recent months. Consequently, Washington staff members are on the road a good deal these days as they study their problems on the ground. At the moment, one representative of Budget is accompanying a subcommittee of the House Agriculture and Forestry Committee as it conducts hearings for farmers in middle western and western states.

So it's a big job and a tough one—living with the unbalanced budget of the biggest corporation in the world — the United States Government. By applying sound business methods the Bureau hopes to put that budget in the black over a period of time. But it won't be easy and will require every ounce of skill and know-how it can bring to the job. And the chances are that the path between Old State and the White House will be worn mighty thin by the time it is acomplished.

Budget Director Joseph M. Dodge Is No Newcomer in Government Service

Joseph M. Dodge

Joseph M. Dodge took office as Director of the Bureau of the Budget on January 22, 1953. Prior to his appointment to this post by the President-elect on January 3, 1953, he acted for over two months as General Eisenhower's personal liaison with the Bureau of the Budget.

Dr. Dodge is a native of Detroit. He was president of The Detroit Bank for almost 20 years and subsequently served as Chairman of the Board. He has been president of the Michigan Bankers Association, American Bankers Association, and Association of Reserve City Bankers.

His governmental service began in 1942. He was director of a headquarters staff division of the Army Service Forces and chairman of the War Contracts Price Adjustment Board in Washington. In 1945-6, he served as financial adviser to the Military Governor of Germany, director of the finance division of the Office of Military Government in Berlin, and director of the finance division of the United States forces in the European theater.

From 1947 to 1951, he was a member of the Advisory Committee on Fiscal and Monetary Problems of the Economic Cooperation Administration. From 1949 to 1952, he served as United States Minister and Financial Adviser to the Supreme Commander of the Allied Powers in the Pacific by apointment of President Truman. Since that time he has made four trips to Japan. From August 1952 until January 1953 he was Consultant to the Secretary of State on Economic and Financial matters affecting Japan. He has also served as financial consultant to the Department of the Army.

A HOME IS FOR LIVING

By THOMAS J. MALONE

WHEN you buy or build a home at the city's edge you acquire more than the structure itself and the land upon which it rests. You become co-owner of the neighborhood, of the region around, with its slopes, levels and open spaces, its trees and water courses. You have a stake in the wildlife, a-wing and a-foot. You are concerned with the site's relation to the wind, its place under the stars, its view of the full moon on parade.

One day, not long after we built, I was on my knees in the side yard, digging behind a rosebush. Two early teenage boy hikers went by, both strangers to me. "Boy, wouldn't you like to live here!" I heard one of them say.

Our place sang that way to us through our years there. We came to take for granted that just about everybody approved it—the house, its hillside and creek-valley setting. But when an emergency arose that caused us to offer the place for sale, we found that by no means everyone approved it. The things we liked most about it were the very things to which some people most objected.

When you sell a home, you sell not only the physical properties of building and site but all the cherished associations that go with them. But a buyer owns no memories of the shadows of a fire in the grate flickering on the walls of the darkened living room; the leaves of the red oak aflame in the setting sun; the cardinal nesting in the arbor vitae beside the kitchen window. A new owner has yet to hear the gurgle of water rippling over stones in the creek below; to know Bunny and Barry, neighbor children coming in to recite a new piece or have a little visit. Such memories have no measure in money, no part in the purchase price. They are a part of *you*.

We miss things so; not the man-made things only, like house and walks. We miss the little things that seemed of slight moment when they came about, often without planning, and worked their way into our lives —things like the grosbeak, and the red-wing, and the brown thrasher.

That grosbeak just about adopted us. He may not always have been the same grosbeak, but we liked to think he was. Each summer he hopped about in the oak shading our porch and peered down on us eating there, in his near-sighted, grandfatherly way. He would give his little warble over and over again to keep us aware of him, and would come to ground promptly when we tossed him a bit of bread.

The red-winged blackbird — we think he was the same one, too, each year — would sail in when the grosbeak was away, as if choosing his time, and perch in the same tree. His chirp, chirp, sought attention, and, seemingly more intelligent than the grosbeak and surely more efficient, he would follow us around to the opposite side of the house if we moved there and he thought he was being neglected, or we were trying to run away from him.

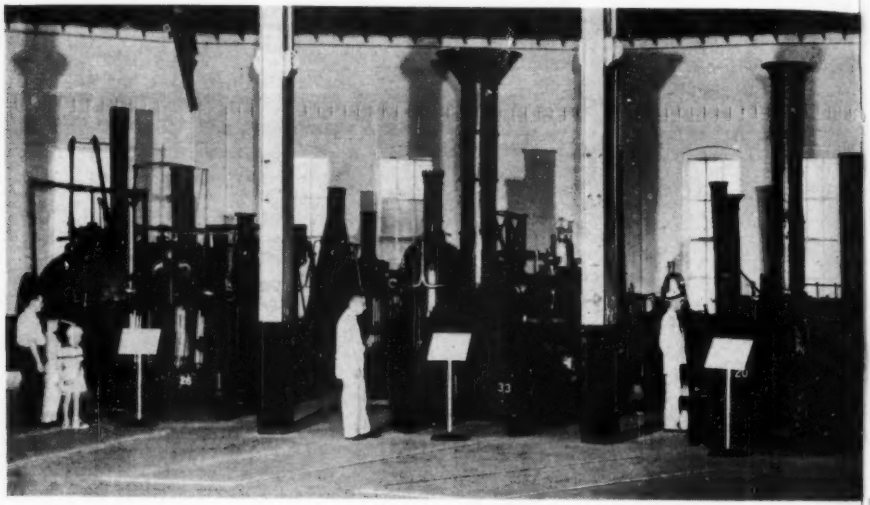
Accurate as the sun, the brown thrasher arrived annually at our place on April 29 or 30, usually at night, it seemed. We checked him year after year. As we lay in bed we would hear him about sunrise, flaunting his joy in being alive—and, we like to think, in being back. We would call to one another, "The thrasher is here!" And there he would be, as always, at the top of the highest elm, spraying song in all directions.

Wrens were late comers, arriving in June, or not long before. One spring, curious but not too well advised, we put up a birdhouse in a low tree-crotch over the kitchen walk, a few feet from the door. Two wrens moved in promptly. Soon we were waking, or being awakened, before five in the morning, and so for weeks.

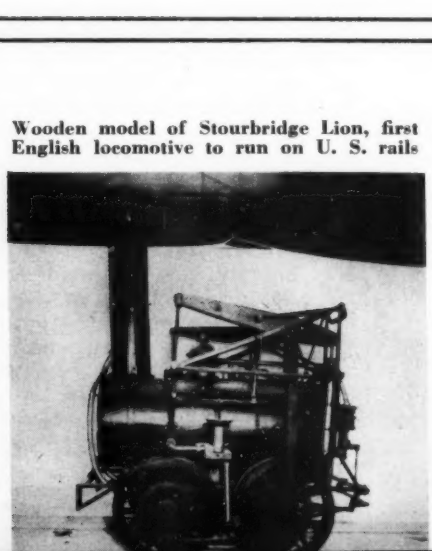
(*Turn to page* 89)

IRON

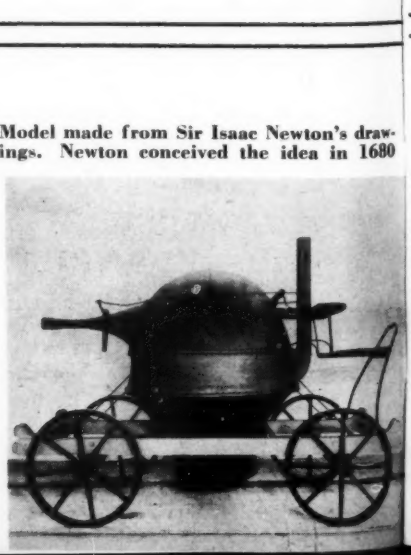
"Wooden Model" section of the new B&O transportation museum in Baltimore



Wooden model of Stourbridge Lion, first English locomotive to run on U. S. rails



Model made from Sir Isaac Newton's drawings. Newton conceived the idea in 1680



HORSES IN WOOD

ALTHOUGH we don't often think of it in this air and rocket age, the history of America's development beyond the seaboard is largely the story of the railroad. And the growth and expansion of the nation's vast network of rails has been paced, step by step, by improvements in its locomotives.

Every school child knows about Robert Stephenson, the Englishman whose pioneer "Rocket" won first prize in the famous Rainhill Trials in 1829. And they have heard the story of the tiny "Tom Thumb," which puffed down the tracks of the Baltimore & Ohio in September of the same year, to become the first American-built locomotive to operate on an American railroad.

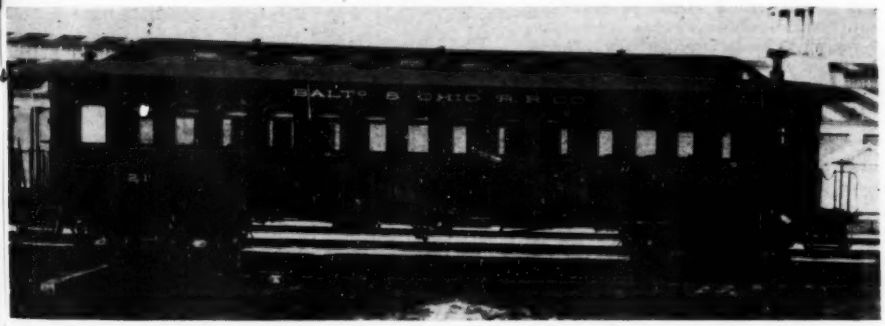
Until July 1953 the dramatic earlier development of the "Iron Horse" has been portrayed only sketchily.

Appropriately it is the Baltimore & Ohio, America's first chartered railroad, which now affords a revealing backward glance at man's first effort to propel himself on land through the use of mechanical power. On July 2, an imposing "Museum of Transportation" was dedicated to public use by the railroad near the heart of downtown Baltimore. It unquestionably contains the most complete collection of railroadiana that has ever been assembled. And among its features are the models in wood. On 22 stub end tracks, radiating from an oak-floored turntable, scores of odd, sometimes weird, mechanisms tell better than words the tortured growing pains of the locomotive from the time of Sir Isaac Newton to the heyday of steam at the end of the 19th Century.

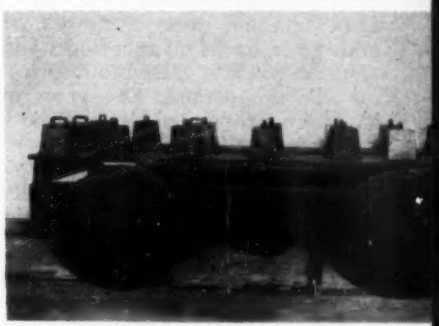
Because almost all of the very earliest types of self-propelled vehicles have been lost, scrapped, or have rusted or rotted away, they must necessarily be represented by reproductions. Fortunately, the Baltimore & Ohio made a start in this direction some sixty years ago, when it commissioned the late Major J. G. Pangborn, of Baltimore, to prepare a collection of full-sized locomotive models, depicting the most famous early engines of the world.

Major Pangborn made a special trip abroad to secure sketches and scale drawings of all the pioneer self-propelled vehicles of England and the Continent. Then he spent long hours in the U.S. Patent Office and with the engineering departments of the oldest American railroads. From this exhaustive research evolved a wonderfully accurate collection of full-scale reproductions, made entirely of wood, but painted to resemble metal where metal parts had originally been used.

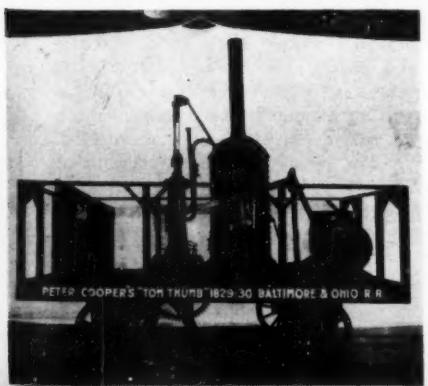
This open-platform, wooden coach is from the Civil War Period



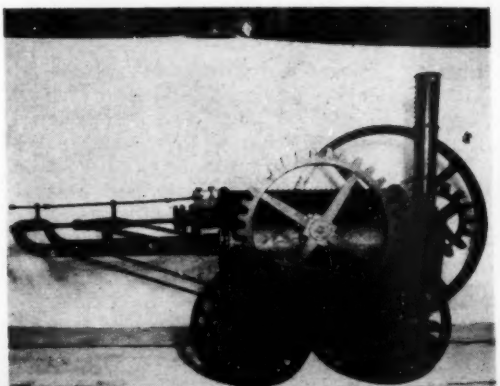
Manual power English engine—1812 era



Tom Thumb. Built in 1829, it was first American locomotive to prove steam operation



Model of a locomotive constructed in 1805 by Richard Trevithick, pioneer in steam



It's The Ancestor That Makes The Tree — Duffield

(*From page 37*)

year. Indeed, the problem of seed years is one which has puzzled foresters for many years, and is another field in which basic research is needed. Second is the fact that in some regions where forest management has become intensive, such as the southeastern pine region, trees are being harvested at younger ages than formerly. This means that large areas never attain the heavy seed production which is often found in older forests. Finally, rising labor costs make it impractical, in some areas, to collect seed from standing trees. In this case, seed is collected from the tops of harvested trees, and this means that only those trees felled during the period between seed maturity and seed fall can be used as seed sources.

An obvious remedy for the shortage of good seed is to establish seed-producing orchards. This proposal has been made by a number of foresters, but perhaps the first clear and well-thought-out scheme was advanced by Syrach-Larsen, the Danish tree breeder, in 1934. Syrach-Larsen's proposal was to take scions from superior trees in the forest, graft these scions on root-stocks and plant orchards of these grafted trees for seed production. This proposal has been elaborated by others — most recently by Tore Arnborg, of the University of Uppsula in Sweden. It is now rather generally agreed that such orchards should contain scions from at least 25 superior trees, in order to provide for ample cross-pollination and avoid inbreeding, which may yield undesirable offspring in some cases.

More than this, each of these 25 superior trees must be "progeny tested" by crossing them with "tester" trees and studying the resulting offspring. Only those parent trees which show up well in these progeny tests are kept in the seed orchards.

So far, we have mentioned only the conservative types of forest tree improvement—using and increasing the best types we can find in nature. Yet the science of genetics — little more than 50 years old—has shown us that we can build entirely new plants to order, and has given us detailed procedures to follow. We can go beyond the mere selection of nature's best along at least two routes. We can combine the good qualities of two or more selected types within a species or we can cross two or more species to produce new types or hybrids which grow faster or are tougher than the parent species. This type of work is likely to take longer to achieve results, but these are likely to be quite substantial and to overshadow the benefits from simple selection. The pine hybridization program initiated in 1940 at the Institute of Forest Genetics is beginning to produce practical results. This is one phase of tree improvement work which depends on long-term programs of basic research by well-trained forest geneticists, assisted by physiologists, entomologists and pathologists.

The principles of genetics have been worked out by biologists studying all forms of life from the most primitive virus to the most highly developed animals. No matter what forms are studied, the same principles are valid. Why, then, is fundamental research needed in forest genetics? Must we demonstrate the principles of genetics with long-lived forest trees, too? Fundamental research not only works out principles, it also unearths the facts which are indispensable in applying principles. In order to apply genetic principles in forestry, we need specific facts of inheritance in forest trees. Hence we need fundamental research in the genetics and the reproductive physiology of trees.

Granted that there are substantial benefits to be realized from an aggressive campaign of forest genetics research, what is there that makes such a program especially urgent or appropriate at the moment? Several facts and trends combine to make the present the time for putting the principles of genetics to work in the woods and for developing the detailed knowledge of inheritance in forest trees needed for continuing progress.

First, there are some purely biological considerations. Some of our most important tree species are in danger of extinction by disease. American chestnut is extinct commercially if not wholly extinct as a botanical curiosity. White pines are in the balance. In the Pacific Northwest, western white pine is approaching commercial extinction. In the great Idaho white pine region, where control efforts promise to hold the line, there is a tendency among some foresters and landowners to try to convert white pine stands to other species—just in case. In the northern part of the range of sugar pine, much the same situation prevails. To adopt the policy of writing off one species after another as new disease and insect pests threaten them, is the height of irresponsibility. Genetics offers, in many cases, the brightest hope for saving threatened species, but the time to make a start is now. A most encouraging example is the current program in which pathologists, foresters, and geneticists are cooperating in a continent-wide campaign to produce blister-rust-resistant white pines — eastern, western and sugar. Similar programs are urgently needed to combat numerous other forest pests.

The genetic approach to pest control offers one conspicuous advantage not shared by other control measures. In the course of breeding resistant types, a good plant breeder is not content merely to restore the species to the status which it had before the pest threatened; he combines resistance with high yield and other desirable properties.

Another biological reason why we should take immediate action along genetic lines is that in many of our forest regions the native stock of our important species is approaching extinction. Over large areas in the Lake States, for example, red pine has been eliminated, and when it has been replaced by planting, stock from other areas has often been used. Professor Brink, of the University of Wisconsin, has become alarmed over the possibility that superior native stocks of red pine may be lost for-

---

NASH AWARDS—Creation of an annual $5000 awards program for professional contributions in the field of conservation of natural resources has been announced by the Nash-Kelvinator Corp. To be known as the "Nash Conservation Awards," the awards will amount to $500 each and will be presented to ten professional conservationists working in education, research, administration or enforcement in any field related to soil, water, forest, fish or wildlife conservation.

---

ever, and has taken steps to preserve representatives of these stocks and to use them in a breeding program to improve this species. This problem, long ago recognized as urgent in parts of Europe, is assuming equal importance in several sections of North America.

Some trends in forest utilization make genetic improvement a present concern. Diameter limits and rotation ages are inevitably shrinking as we bring old-growth forests under management. The high quality of much of the lumber we have produced has been the consequence of harvesting large, old trees — trees which dropped their limbs hundreds of years ago and produced large volumes of clear heartwood. We are not likely to produce high quality lumber again in this way, but genetics working to supplement intensified cultural practices can go a long way to produce high quality on shortened rotations.

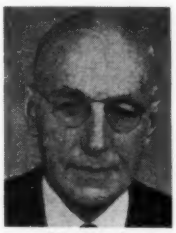
This possibility is of interest not only to the lumber producer — it may be equally attractive to all the industries which reconstitute wood. The pulpwood cutter is no happier about the limby, crooked tree than is the sawlog buyer. Already there is, in Texas, a program designed to develop pines with heavier wood in order to enhance the yield of pulp per cord of wood. In Australia, pines are being selected for long fiber and straight grain. Biochemical studies in Sweden show that pines differ widely in their pinosylvin content—a fact that may be used to develop pines with higher durability. If wood — either as lumber or in reconstituted form—is to hold its place in the market, wood producers will have to do what farmers long ago found necessary. They must turn to plant breeding to make their product conform better to the rising standards of the market.

Today the American people, on public and private lands, are making a better effort than ever before to restore and properly manage our forests. Planting is on a larger scale than at any other period of full employment, and is on a sounder biological and economic basis. We have the knowledge to make at least a start in the genetic improvement of our plantations, and yet the knowledge we have is a small fraction of what we need to do a good job. Let us use what knowledge we have, but more important, let us support the long-term, unsensational basic research which is the only way to increase our knowledge.

NAMES IN THE NEWS

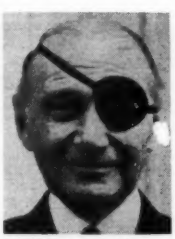
Mr. Merck

George W. Merck, chairman of the board of directors of Merck & Co., Inc., pioneer "wonder drug" producers, has been named industrialist of the year by the Society of Industrial Realtors. The award, presented annually to a corporation executive who has made a most significant contribution to the industrial development of North America in the public interest, will be given to Mr. Merck at ceremonies Nov. 11 in Los Angeles. A member of the board of directors of The American Forestry Association, Mr. Merck, in addition to other distinctions, has been a trail blazer in the large-scale production of penicillin, streptomycin, cortisone, and the sulpha drugs. In announcing the selection of Mr. Merck to receive the 1953 Industrial Award, the board of impartial judges who made the choice termed him "a great manufacturing chemist who has given life itself to countless thousands and contributed to the health and well-being of every living person." Eric Johnston, president of the Motion Picture Association of America, headed the board of judges.



Mr. Pack

Randolph G. Pack, honorary vice president and former director of The American Forestry Association, last month was awarded the honorary degree of Doctor of Science by the University of Michigan. The honor was in recognition of his activities in forest conservation and land management. Given on the 50th anniversary of forestry teaching at the University, the degree reads: "Industrialist, apostle of conservation. In no measure have the varied and pressing obligations of a successful business career dulled in him the concern for our forests that is characteristic of his family. Constant application to the problems of conservation and active participation in regional and national movements have led him to a considered philosophy of rational land management. . . . As president of the forestry foundation (Charles Lathrop Pack Forestry Foundation) which bears the honored name of his father, he has initiated programs of research in which this University has been privileged to participate . . ."



Mr. Douglas

Lewis Williams Douglas, chairman of the board of the Mutual Life Insurance Co. of New York and former Ambassador to the United Kingdom, heads a list of distinguished personalities who will participate in the Mid-Century Conference on Resources for the Future Dec. 2-4 in Washington, D. C. As chairman of the Conference, called by Resources for the Future, Inc., Mr. Douglas will preside at sessions stressing the significance, both at home and abroad, of the problems of natural resources, including economic and businesslike development for present needs and prudent policies of conservation for future requirements. A native of Arizona, Mr. Douglas comes from a family long identified with extensive copper mining and cattle interests. His own career, in addition to his business activities in the Southwest, has included several years as vice president of the American Cyanamid Co., and his association with Mutual of New York since 1940. He also has held many positions of public service in addition to the ambassadorship. (*See also news item on page* 93.)

Two big reasons why

AUSTIN-WESTERN power graders go places and do things no other graders can match

Only A-W has the terrific combination of

1 ALL-WHEEL DRIVE

plus

2 ALL-WHEEL STEER

Modern logging methods require good roads. And today more and more access roads are being built and maintained in the tough timber country with Austin-Western Power Graders—"The Graders That Have Everything".

"All-Wheel Drive". . . puts every ounce of engine power on a driving, climbing wheel. Top traction puts extra power where it's needed—at the blade.

"All-Wheel Steer". . . takes the grader where it's wanted in the shortest time; holds every wheel where the footing is best.

Yes, the Austin-Western Power Grader has plenty of what it takes to carve new roads out of sheer wilderness . . . fast, and at low cost.

Send for additional information TODAY.

An Austin-Western "99-H" Power Grader dozing slash off the shoulder preparatory to cutting a new ditch.

All-Wheel Drive and All-Wheel Steer take the Austin-Western Grader through the toughest going with ease.

Austin-Western

Power Graders · Motor Sweepers
Road Rollers · Hydraulic Cranes

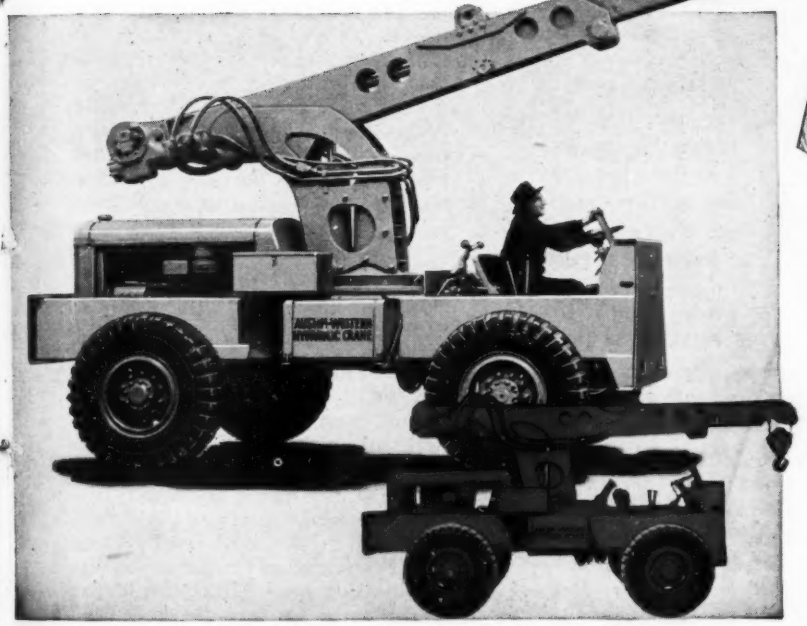
BALDWIN BLH LIMA-HAMILTON

Construction Equipment Division

Manufactured by
AUSTIN-WESTERN COMPANY
Subsidiary of Baldwin-Lima-Hamilton Corporation
AURORA, ILLINOIS, U.S.A.

A-W tops them all!

AUSTIN-WESTERN hydraulic crane...
designed to meet your materials handling needs



Here are the
FEATURES
you asked for

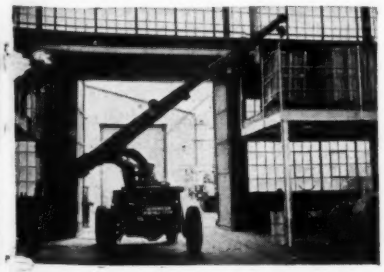
Full Hydraulic Control
Rugged Construction
Precision Handling
Maneuverability
Versatility

These are just a few of the many features built into this sensational new Hydraulic Crane, designed especially to take the headaches out of your materials handling problems in and around your Forest, Mill, Yard and Plant.

No other machine in your spread will do more jobs—inside and outside.

No other machine can equal the speed and low cost operation.

Here is the all-purpose "Jack-of-all-trades" crane you've been waiting for, and, like all other Austin-Western products, it's "Built to Outperform". Get complete information NOW.



The telescopic boom can be raised from the horizontal to an approximate 45° angle and is continuously rotatable through a full 360°.

The angle of the boom is quickly and easily changed, and the Crane can lift and transport its maximum load inside and outside.

See us at the show

Pacific Logging Congress • November 4-6 • Seattle

AUSTIN-WESTERN COMPANY
617 Farnsworth Avenue, Aurora, Illinois

Please send complete information. ☐ Hydraulic Crane ☐ Power Graders

Name.....

Title.....

Company.....

Street.....

City.....Zone..... State.....

Other products: Motor Sweepers, Road Graders, Road Rollers

Don't get caught without plenty of INDIAN FIRE PUMPS!

You're really "hooked" if you don't have enough of these famous, clear water extinguishers to take care of any fire emergency. Order Now! Don't wait until the fire season is here to stock up on INDIAN FIRE PUMPS.

"We have used INDIAN FIRE PUMPS for several years and need 12 more, which please ship at once. We cannot afford to be without the INDIAN for we consider it the handiest piece of fire fighting equipment on our truck."

F. H. Sanders, Mayor.

Send For Catalog

D. B. SMITH & CO. 405 MAIN ST. UTICA 2, N. Y.

PACIFIC COAST BRANCHES:

Hercules Equipment & Rubber Company, Inc. 435 Brannan Street San Francisco 7, California

Fred E. Barnett Company 2005 S. E. 8th Ave. Portland, Oregon

Titan Chain Saws, Inc. 2700 Fourth Avenue South Seattle, Washington

Roy G. Davis Company 617 East Third Street Los Angeles, California

Fred E. Barnett Company 600 Spring Street Klamath, Falls, Oregon

L. N. Curtis & Sons 426 W. Third Street South Salt Lake City, Utah

CANADIAN AGENTS:

Fleck Brothers, Limited 110 Alexander Street Vancouver, B. C., Canada

C. E. Hickey & Sons, Ltd. Hamilton, Canada

Babcock

(*From page* 36)

perior combination of genes. It is these rare but extremely valuable individuals that are the potential progenitors of the superior forests of the future. How can they be discovered and utilized? Only by painstaking searching, followed by comparative testing of the "hopeful" selections, and employment of the best of the tested selections in breeding. This calls for long-term, adequately financed research.

Third, genicide in timber trees is just as dangerous as genicide in human beings. Valuable human genes are destroyed in totalitarian countries through purges and other atrocities that disregard the intrinsic value of the individual. Just as surely are valuable forest tree genes destroyed by any system of forest cutting that does not leave superior trees to provide the seed for reforestation. One of the most encouraging signs of a dawning consciousness of this danger in forestry is the pride of certain large timber-owning companies in their "tree farms." These more carefully and systematically managed forests are not really farms in the usual meaning of that word. But their owners are planning so that a reasonable number of good trees will be preserved for the production of the seed.

Fourth, forest tree planting is rapidly increasing throughout America, especially in the southeastern states where the demand for pulpwood has become so keen. This demand has mushroomed so rapidly that the nurseries can supply only a fraction of the total orders placed, and even at current production levels, nurseries are forced to obtain the seeds for future nursery plantings wherever possible. Current timber tree plantings in the South, therefore, are almost entirely from unselected stock. Hence a wonderful opportunity exists for practicing another simple kind of applied genetics, namely the use of only select seed in starting timber tree plantations.

The importance of seed selection in timber tree planting has already been pointed out. In fact, the Southeastern Forest Experiment Station and the Rocky Mountain Forest and Range Experiment Station of the U. S. Forest Service have both published helpful discussions of the criteria to be observed in selecting seed trees of several timber species.

(*Turn to page* 52)

Allis-Chalmers HD-15
Weight 27,850 lb.
109 drawbar hp.

Speeds:
6 forward, to 5.8 mph.
3 reverse, to 4.5 mph.

HOW ADVANCED DESIGN

Makes Allis-Chalmers Tractors more dependable

These heavy-duty tractors have toughness and ease of servicing to match their outstanding performance ability. Here are some of the advanced design features that provide extra strength and protection — keep Allis-Chalmers tractors on the job more hours:

1. One-Piece, All-Welded Structural Main Frame . . . strong and firm without a single ounce of excess weight — absorbs all vertical and horizontal stresses.

2. Extra Large Idler and Sprocket eliminates rocking action, puts more track on the ground for greater stability and better traction.

3. Spring-Loaded, Positive Seal keeps dirt, moisture and grime from damaging truck wheels, idlers and support rollers . . . you lubricate them only once every 1,000 hours.

4. All-Steel, Welded A-Frame Track Stabilizer permits free track oscillation, yet keeps tracks rigidly in line and absorbs thrusts and twists from shock loads and working on uneven terrain.

5. Oil Enclosed Track Release Mechanism reduces track maintenance and breakage. An adjustable screw lock provides positive holding action that maintains adjustment at required setting.

6. Engine Not Used as Structural Member — no strain is transmitted to it. Engine weighs less per horsepower developed, because of 2-cycle design — has modern unit injection.

UNIT CONSTRUCTION SAVES SERVICE TIME

With Allis-Chalmers *unit construction*, major assemblies are easily removed without disturbing related assemblies. This brings real savings in time and money, puts tractors back to work faster. It assures better inspection and maintenance, too. Servicemen find it easy to remove major parts to correct trouble before damage develops.

Let your dealer tell you more about the toughness of Allis-Chalmers tractors, their time-saving unit construction — and their unequalled lugability and work power.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

ALWAYS USE

BARTLETT TREE TRIMMING TOOLS

For Ease of Operation and Protection to the Operator

LET THIS NO. 1-WJ JOINTED PRUNER DO THE STRETCHING

It has the Compound Lever side cutting head and also double leverage due to the pulley which is attached to curved lever. It will sever any branch up to 1¼" in diameter with the slightest effort. Only a side cutting head leaves clean wounds. Made in 4 foot sections easily joined together to make the desired overall length.

No. 1-WJ JOINTED TREE TRIMMER

2 section	8 ft. overall	$14.25
3 "	12 ft. overall	$18.65
4 "	16 ft. overall	$23.05

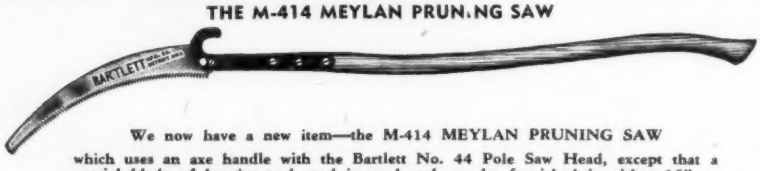
FOB Detroit via Express

BARTLETT TREE PAINT

For the protection of wounds after pruning, use Bartlett Tree Paint. Easily applied with ordinary paint brush.

1 to 5 gals. $3.50 per gal.
6 1-gal. cans (1 carton) $2.50 per gal.
5-gallon drum $10.00 per drum
F.O.B. Detroit
Express or Freight

THE M-414 MEYLAN PRUNING SAW



We now have a new item—the M-414 MEYLAN PRUNING SAW which uses an axe handle with the Bartlett No. 44 Pole Saw Head, except that a special blade of heavier tool steel is used and can be furnished in either 16" or 18" length. The axe handle, especially made for this saw, is properly tapered to fit the head and is 36" long. You can prune 9½ ft. from the ground.

M-414 Meylan Saw, complete with 16" blade $11.60
M-414 Meylan Saw, complete with 18" blade 12.00
Delivered

No. 999 HAND PRUNER

This drop-forged tool steel 9-inch Hand Pruner has a crucible steel blade and hardened hook. Unsurpassed.

PRICE DELIVERED $6.25

No. 777 TWO HAND PRUNER

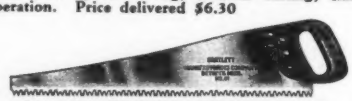
Novel design places the blade on opposite side from general custom; makes possible greater efficiency and usefulness because pruner is especially adapted to use by right handed men. Hook remains stationary, blade closes. Will not wound the bark.

Price Delivered
777—26" Handles with 4" Plain Ferrule $6.85
777—26" Handles with 10" Strap Ferrule $7.15

BARTLETT PRUNING SAWS

No. 127—Price delivered $4.50
No. 127—24" PARAGON SAW. This curved blade, draw cut pruning saw is ideal for all-around pruning. Best quality saw steel. Easy grip handle.

No. 114B—Special Utility Saw combines for the first time: Quick cutting, Smooth cutting, Easy operation. Price delivered $6.30



No. 41 TUTTLE TOOTH SAW

This popular saw is made in 20 and 24-inch lengths. Equipped with a special extra-large handle. Tuttle tooth design is excellent for large cuts.

Price Delivered
20" $5.25
24" $5.95

Where delivered prices are shown, delivery applies to U.S.A. only.

BARTLETT MFG. CO.

Box 19—3003 E. Grand Boulevard, Detroit 2, Michigan

Babcock

(*From page* 50)

Furthermore, the Southern Forest Experiment Station, with the cooperation of the Committee on Southern Forest Tree Improvement, is now conducting an extensive testing experiment in order to compare the growth and yield performance of the seed of southern pine species collected in many different geographic areas. These tests will be made in various regions in the South so that eventually some light will be shed on the best sources of seed for forest planting in each of the different regions. Here is a research project aimed at a more refined method of seed selection for future forests. It is indeed an encouraging sign of an awakening appreciation of the importance of forest genetics. Equally encouraging are the recently organized committees on forest tree improvement in the South and in the northern Rocky Mountain Region. There is also a movement under way to organize a similar committee in the Lake States.

Other important local beginnings in forest genetics research are the Institute of Forest Genetics at Placerville, California, the pioneer in this field; the Maria Moors Cabot Foundation for Botanical Research of Harvard University where forest genetics research is conducted; the Northeastern Forest Experiment Station at Upper Darby, Pennsylvania; the University of Wisconsin where important research on forest tree diseases is conducted in cooperation with industrial firms and public agencies; the Lake City, Florida, substation of the Southeastern Forest Experiment Station; and the Texas Forest Service. A few of our forestry schools are at last becoming interested in forest genetics.

Fifth, some promising beginnings have been made in discovering and creating disease-resistant types of important timber trees. Consider, for example, the devastating blister-rust disease which has wiped out so many thousands of acres of white pine forests in the northern and western parts of this country. The parasitic fungus causing this disease passes part of its life cycle on wild currants and gooseberries. Therefore, in order to reduce the parasite as much as possible, the federal government, the states, and the lumber industry

(*Turn to page* 56)

Dynamic power (5 hp.) plus amazing light weight (only 29 lbs.) team up to give you a chain saw that produces more —faster, easier, and at lower cost.

New Low Price **$295.00** 18" BAR

WORK-TEST THE AMAZING Mall 2MG ON A GUARANTEED PERFORMANCE BASIS

See the amazing MALL 2MG at your MALL dealer's. Ask him to point out the many extra features found only in this, the world's lightest, most powerful one-man chain saw. Then convince yourself! Work-test the MALL 2MG in your own timber. It won't take long to see why the fabulous 2MG walks away with first prize in contest after contest. You'll agree that here's a chain saw that's got everything—easy to operate, light to tote—lightning-fast cutting power —and just about every convenience feature imaginable. Feature for feature and dollar for dollar (don't forget that new low price) the MALL 2MG is the finest chain saw ever built.

40 Factory-Owned Service Warehouses, Coast to Coast, To Give You Fast, Dependable Service

POWER PACKED Mall 12A

Now

$255.00 18" BAR

Here's a really outstanding value. The smooth-cutting 12A fells up to 42" trees with one cut. Handles easily from any angle. The two cycle engine is a "miser" on gas consumption.

MALL TOOL COMPANY

7761 S. Chicago Ave., Chicago 19, Illinois

I would like to work-test a MALL chain saw in my own timber.

*Name*_____

*Occupation*_____

*Address*_____

LU-66

WHELAND EQUIPPED MILL PROVES "DOUBLY PROFITABLE"

C. L. BRICE, President of Brice Lumber, Incorporated, Archer, Florida, reports:

"Our modern Wheland Double Sawmill, which you assisted us in designing and for which Wheland furnished the major items of machinery, has now proven to be doubly profitable. The Wheland equipment is fast, dependable and economical to operate."

"We feel without a doubt we have one of the finest and most profitable sawmills in Florida. We are very pleased with the Wheland machinery and recommend the use of Wheland equipment to our sawmill friends all over the country."

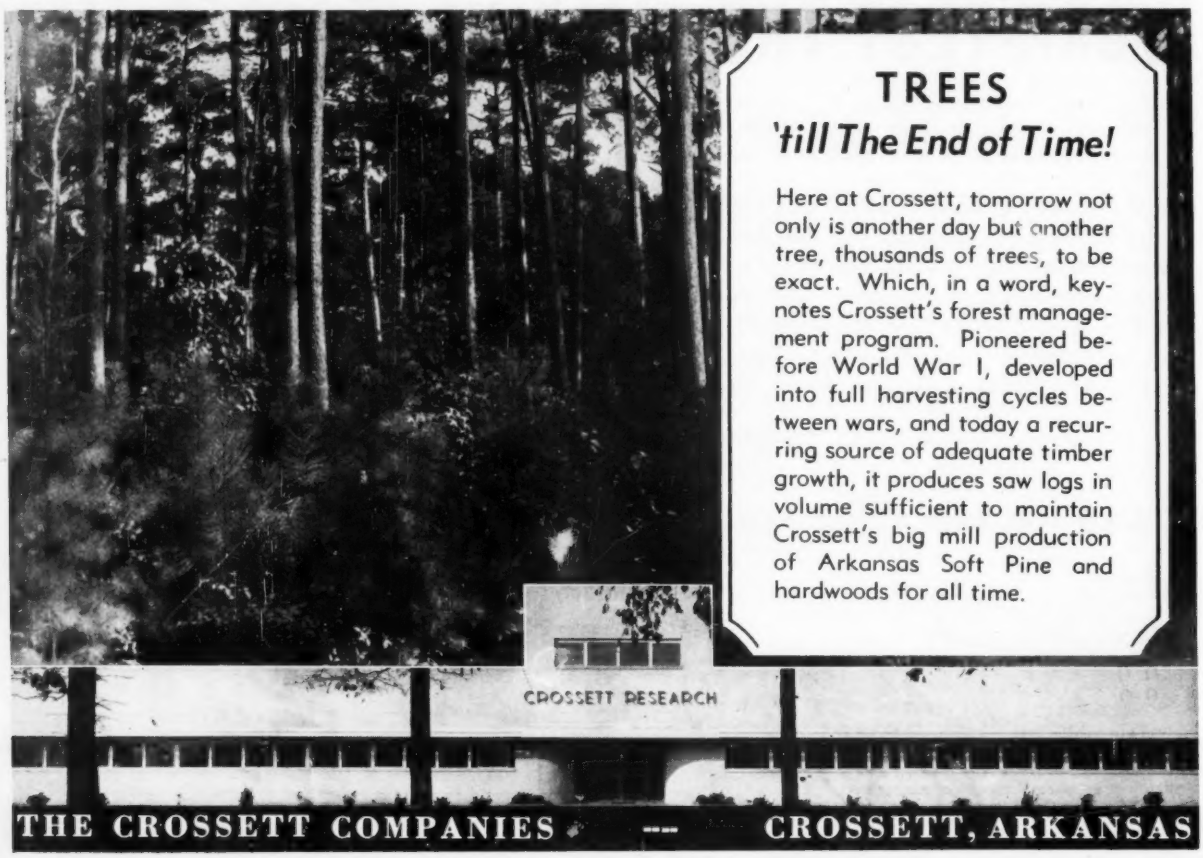
WHELAND EQUIPMENT IS BEST FOR YOUR MILL!

Write or phone today—
no cost or obligation on your part

WHELAND

THE WHELAND COMPANY

CHATTANOOGA 1, TENNESSEE



TREES
'till The End of Time!

Here at Crossett, tomorrow not only is another day but another tree, thousands of trees, to be exact. Which, in a word, keynotes Crossett's forest management program. Pioneered before World War I, developed into full harvesting cycles between wars, and today a recurring source of adequate timber growth, it produces saw logs in volume sufficient to maintain Crossett's big mill production of Arkansas Soft Pine and hardwoods for all time.

THE CROSSETT COMPANIES — CROSSETT, ARKANSAS

TO MEMBERS OF

THE AMERICAN FORESTRY ASSOCIATION

and

DELEGATES AMERICAN FOREST CONGRESS

★

TODAY lumber and other forest-using industries are more essential than ever to the national welfare. We recognize the vital relationship of forest conservation to the permanency of such industries. . . .

Your valuable efforts in the promotion of forest conservation and wise use are important assets to our continuing development and use of practical measures for sustained forest production.

★

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

A Federation of Associations of Lumber Manufacturers

INCLUDING

AMERICAN WALNUT MANUFACTURERS ASSOCIATION
APPALACHIAN HARDWOOD MANUFACTURERS, INC.
HARDWOOD DIMENSION MANUFACTURERS ASSOCIATION
HARDWOOD PLYWOOD INSTITUTE
MAHOGANY ASSOCIATION
MAPLE FLOORING MANUFACTURERS ASSOCIATION
NATIONAL OAK FLOORING MANUFACTURERS ASSOCIATION
NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION
NORTHERN HEMLOCK & HARDWOOD MANUFACTURERS ASSOCIATION
NORTHERN PINE MANUFACTURERS ASSOCIATION
SOUTHERN CYPRESS MANUFACTURERS ASSOCIATION
SOUTHERN HARDWOOD PRODUCERS, INC.
SOUTHERN PINE ASSOCIATION
THE VENEER ASSOCIATION
WEST COAST LUMBERMEN'S ASSOCIATION
WESTERN PINE ASSOCIATION

NATIONAL LUMBER NLMA MANUFACTURERS ASSOCIATION

1902 *1953*

Greetings . . .

to the members of The American Forestry Association on the occasion of the FOURTH AMERICAN FOREST CONGRESS. As manufacturers of pulp, paper, and paperboard for the protection of America's foods, with timber sources and manufacturing operations in both the United States and Canada, Marathon is vitally interested in the programs of the Association which promote better forestry practices in America.

MARATHON CORPORATION

MENASHA, ROTHSCHILD, WAUSAU, GREEN BAY AND ASHLAND, WISCONSIN; MENOMINEE, MICHIGAN; OSWEGO, NEW YORK; SUNNYSIDE, WASHINGTON; MARATHON, ONTARIO, CANADA.

The Finest Photoengravings for Quality Reproduction

DISTRICT 7-6208

engraving company inc.

REAR 1325 G STREET N.W. WASHINGTON 5, D. C.

The Printing Plates for

AMERICAN FORESTS

are products of our plant

Babcock

(*From page* 52)

have been eradicating the currants and gooseberries at a cost of over 40 million dollars in ten years. This preventive operation has made it possible to harvest much white pine timber that would otherwise have been destroyed. But the disease is still with us and is threatening all future white pine plantings unless rust-resistant trees can be used.

For this reason, tests are now being made in the North and Northwest of a few disease-free, possibly resistant white pine trees found here and there where most of the forest was destroyed. Rooted cuttings from these selected trees have been artificially infected with rust and some of them actually appear to be resistant to the parasite. Furthermore, the Institute of Forest Genetics at Placerville has produced, among many other pine hybrids, a cross between our eastern white pine and the Himalayan white pine which for seven years, under test in an area of heavy infestation, has proved to be resistant to the rust fungus.

But white pine blister rust is only one of many serious diseases of timber trees. Insects are equally if not more destructive.

To this writer the outlook for circumventing the destruction of timber by insects and diseases by marketing over-age trees seems a forlorn hope. Certain bark beetles attack only old trees under normal conditions but can spread into younger, more vigorous trees when epidemic conditions develop. Many insects and disease-causing organisms attack young trees by preference. Note, for example, the destruction of young plantations of yellow pines by the pine reproduction weevil in the West. The menace of timber destruction by diseases and insects must be carefully considered in making long-term plans for forest conservation. A comprehensive program of research and breeding offers a positive approach to reduction of the continual expense for partial control of the pests and diseases. Sometimes naturally resistant individual trees can be located and used in building up resistant stocks. More often it may be necessary actually to create new resistant types by means of research and applied genetics.

Now it must be emphasized that all of the important features of an ideal type of timber tree are subject

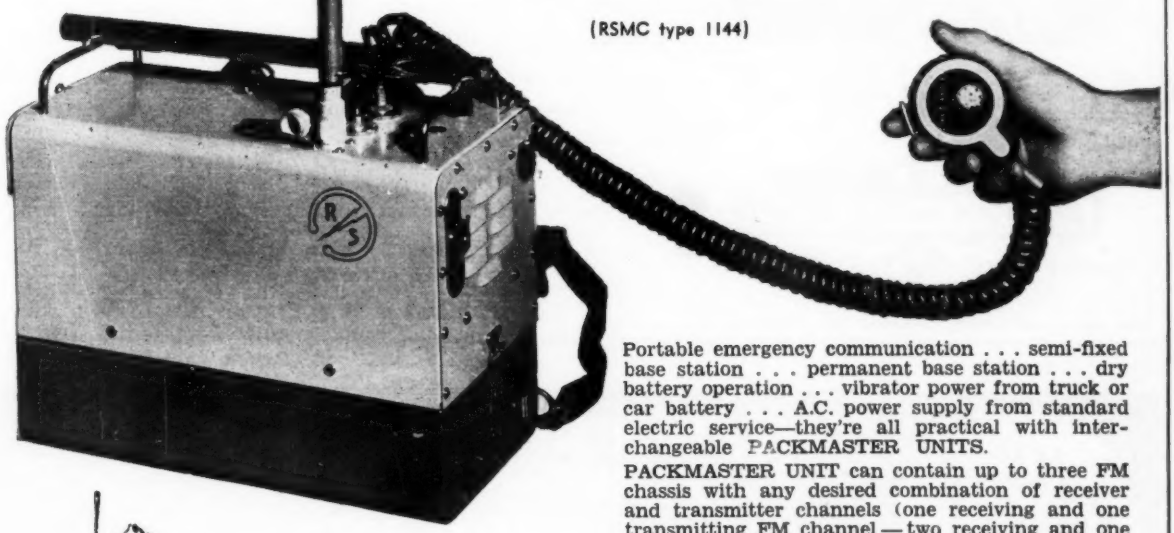
(*Turn to page* 60)

Here is Dependable, Portable Communication you can use many ways

PACKMASTER

FM communication unit

(RSMC type 1144)



Portable emergency communication . . . semi-fixed base station . . . permanent base station . . . dry battery operation . . . vibrator power from truck or car battery . . . A.C. power supply from standard electric service—they're all practical with interchangeable PACKMASTER UNITS.

PACKMASTER UNIT can contain up to three FM chassis with any desired combination of receiver and transmitter channels (one receiving and one transmitting FM channel — two receiving and one transmitting—two transmitting and one receiving).

Four FM Frequency bands: 30-40 mcs.
40-50 mcs.
152-162 mcs.
162-174 mcs.

Hi Power —7.5 watts on 30-40 mcs.
6 watts on 40-50 mcs.

Lo Power —1.5 watts on 30-40 mcs.
1 watts on 40-50 mcs.
.4 watts on 152-162 mcs.
.4 watts on 162-174 mcs.

Weight—apx. 26 pounds with medium duty batteries.

Check your requirements—
the PACKMASTER meets them all!

Frequencies
Single or dual Channels
Power Source—
Dry Batteries, AC,
Auto Battery
Type of Communication—
Portable to portable,
Mobile to mobile, Mobile
to Portable, Portable to
Main Station, Main Station,
Distances involved
Terrain
F.C.C. Licensing

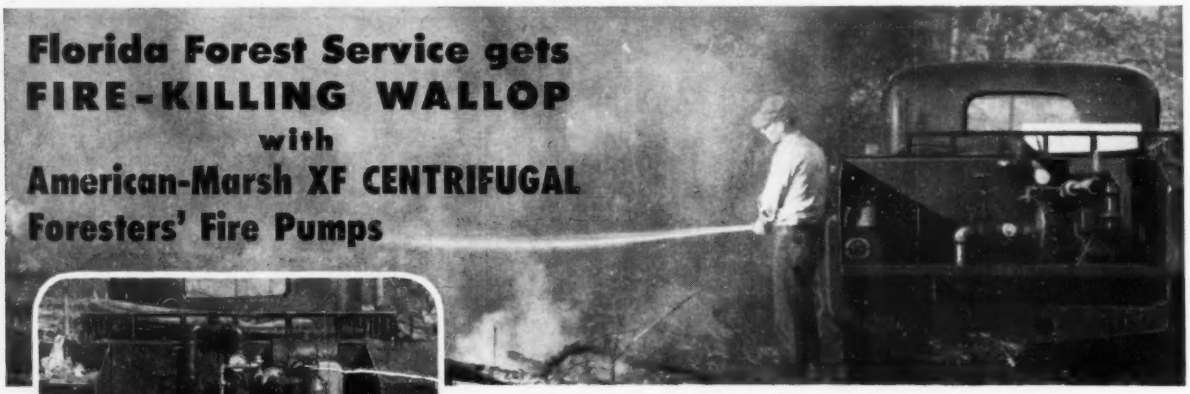
When writing for information include as many details from this check list as possible. It will assist us in providing you with complete information to fit your exact needs.

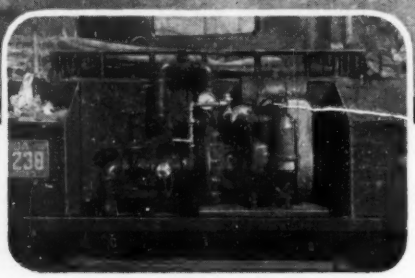
Manufactured By

RADIO SPECIALTY MANUFACTURING CO.

2023 S.E. SIXTH AVE. PORTLAND 14, OREGON

Florida Forest Service gets FIRE-KILLING WALLOP with American-Marsh XF CENTRIFUGAL Foresters' Fire Pumps





This neat installation is just one of dozens of portable or truck-mounted XF Pumps now used for Florida forest protection.

The Florida Forest Service has chosen rugged equipment . . . to match the rugged conditions of their job. For compact fire-fighting efficiency, they've installed American-Marsh XF Centrifugal Pumps to make units any forester would be glad to have.

Type XF pumps deliver up to 65 GPM, pressures up to 180 pounds. They'll throw a stream over farm or small town buildings . . . and fight brush and forest fires *on the run.*

When *you* need rugged, long-lived portable pumps, be sure to check the superior features of this American-Marsh XF Centrifugal!

AMERICAN-MARSH PUMPS

BATTLE CREEK MICHIGAN

In Canada:
American-Marsh Pumps (Canada) Ltd., Stratford, Ont.

Write today for XF Bulletin 8122!

Pumps and Pumps Only Since 1873

FREE BOOKLET REVEALS "MACHINE MAGIC"

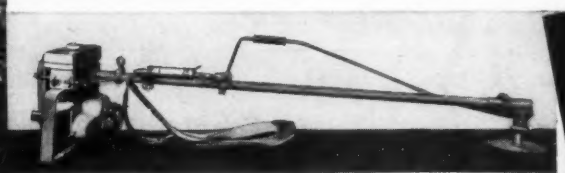
ONE MAN DOES THE WORK OF 6

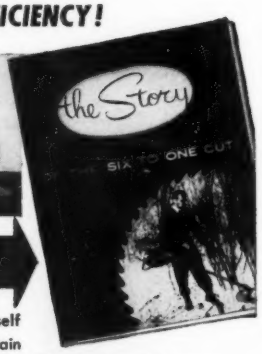
WITH THIS REMARKABLE

POWER-DRIVEN BRUSHCUTTER

BRUSHMASTER®

REDUCES COSTS! . . . INCREASES EFFICIENCY!





FREE BOOKLET SHOWS HOW TO REDUCE BRUSH CLEARANCE COSTS!

Brushmaster is the talk of the industry . . . and is now proving itself in the field with many and varied companies which must maintain right-of-way clearance. Cuts all brush, from matted grass to saplings 4" in diameter. Operator completely protected, cannot come in contact with blade. One man operated, lightweight, it goes anywhere . . . reaching overhanging branches and vines . . . and cropping close to the ground! Vibration-free, clutch controlled, positive drive. Send for booklet today!

BRUSHMASTER SAW, INC.
843 EMERALD ST., KEENE, N. H.

Subsidiary of Harrington & Richardson, Inc., established 1871.
Manufactured and sold in Canada by H&R Arms Co., Ltd. Montreal, Canada

SOUTHERN PULPWOOD CONSERVATION ASSOCIATION

SUPPORTED BY THE PULPWOOD INDUSTRY IN THE SOUTH TO PROMOTE GOOD FOREST PRACTICES ON ALL WOODLANDS THROUGHOUT THE REGION, TO INCREASE LANDOWNER INCOME AND PROVIDE CONTINUING CROPS OF TREES FOR ALL WOOD-USING INDUSTRIES

Cut Wisely

Prevent Fires

Grow More Trees

1224 PEACHTREE STREET, N. E.

ATLANTA 5 GEORGIA

ANOTHER
WILD
BLESSED EVENT

WILD
T 12
THE NEW
"POCKET THEODOLITE"

WILD
HEERBRUGG

A "baby" for preliminary surveys, reconnaissance work, construction, leveling, location surveys.

Weighs only 7 lbs.
including "thermos bottle" container and extension-leg tripod.
Prism underneath telescope gives vertical range of 72°

TELESCOPE: Upright image, 5x magnification, field of view 8°
READING: Horizontal circle to 1', vertical to 2'
PRICE: $315.00 incl. metal container and extension tripod with small plumb-bob

For details phone or write for Bklt AF 11

Extensive repair & servicing facilities by factory trained specialists.

HENRY WILD
SURVEYING INSTRUMENTS SUPPLY CO.
OF AMERICA, INC.
MAIN & COVERT STS., PORT WASHINGTON, N. Y.
PO rt Washington 7-4843

Babcock

(*From page* 56)

to control by heredity — such features, for example, as shape of tree, habit of branching, rate of growth, and quality of wood. Therefore, the creation of truly superior types of timber trees for our future forests is just as practical an undertaking as was the development of the famous European breeds of livestock.

Those pioneer breeders conceived of certain ideal types toward which they persistently selected their breeding animals. There resulted such outstanding breeds of cattle as the Hereford, Holstein and Jersey. Still more impressive has been the development of new types of animals to meet specific requirements of heat resitsance, disease resistance and hardiness. In similar fashion forest geneticists of the future will develop new types of trees.

But, just as the development of our valuable breeds of livestock required many years of patient, persistent effort on the part of their founders, just so surely we shall need the combined, cooperative research and experimentation of many geneticists and breeders in order to produce the best types of timber trees for our future forests.

In striving to formulate a sound, far-sighted program of forest conservation, the basic importance of ancestry, heredity, genetics should be given due consideration. To this end I submit below three theses which may serve as themes for discussion in future conferences on natural resources:

I. The preservation of the better and elimination of the poorer hereditary stocks in each important timber tree species must be recognized as a basic principle in forest conservation.

II. The utilization of the best available hereditary traits or features of each important species, *i.e.,* conservation of superior genes, in the creation of ideal types of timber trees by means of applied genetics must be recognized as a basic principle of forest conservation.

III. Since the utilization of superior genetic stocks of timber trees in growing our future forests can be accomplished only by qualified scientists, working intensively, continuously and cooperatively for many years, the adequate financial support of research in forest genetics and allied disciplines is of basic importance in forest conservation.

(*Turn to page* 62)

The Personal Notes of a Pioneer in Conservation

ROUND RIVER

From the Journals of

Aldo Leopold

These previously unpublished selections from the writings of Aldo Leopold offer a fascinating glimpse into the life and mind of a great man.

To anyone who knows the pungent charm of his previous book, *A Sand County Almanac* (which the *N. Y. Times* called "outdoor writing at its best"), ROUND RIVER will come as a new delight—full of wisdom and humanity, a record of reflections and observations on all aspects of nature by a man who loved it and lived with it.

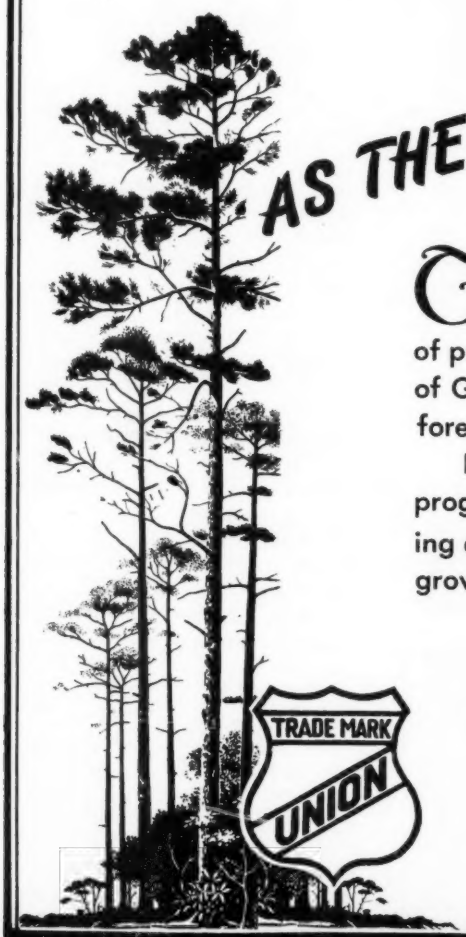
The daily entries in his journals were written in camp on his field trips—hunting, fishing, exploring; many of them indicate the source of his ideas on land ethics. The longer essays are taken from contemplative notes, which were still in manuscript when he met his tragic death fighting a grass fire.

Every page retains something of his personality. Taken together they reveal the growth of his extraordinary perception about man and nature, the difference between land and country, the lessons of natural history, the pleasure in the sight and pursuit of game, the meaning and use of leisure. To read ROUND RIVER is to share the companionship of a knowing man who stimulates both the mind and the spirit.

26 illustrations by
CHARLES W. SCHWARTZ

At all bookstores. $3.00

OXFORD UNIVERSITY PRESS
114 Fifth Avenue, New York 11



AS THE TWIG IS BENT...

The fifty school forests established this year will form another link in that chain of projects sponsored by us to acquaint the youth of Georgia and the Southeast with the value of forest lands.

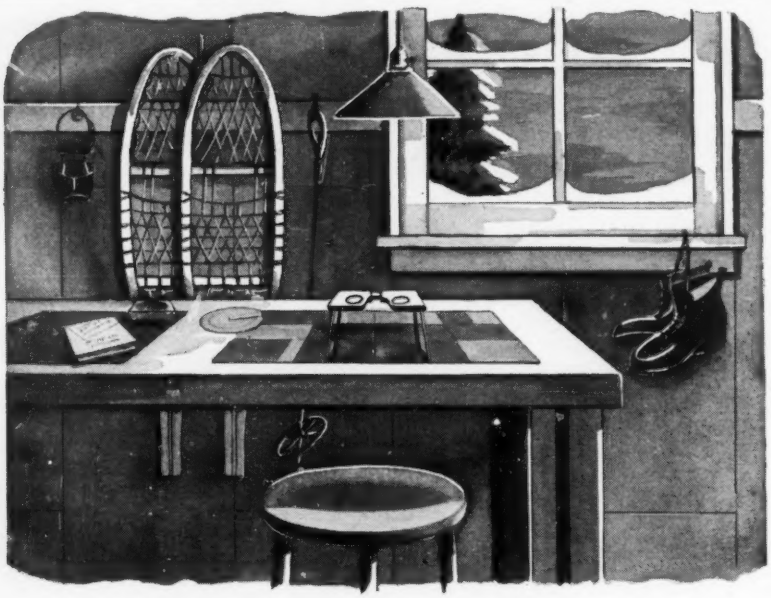
Keeping pace wih our youth enlightenment program are our other woodlands activities having as their purpose increased utilization and the growing of more trees for tomorrow.

TRADE MARK UNION

UNION BAG
& Paper Corporation

WOODLANDS DIVISION SAVANNAH, GA.

GROWING MORE TREES FOR TOMORROW...AND USING TODAY'S CROP WISELY



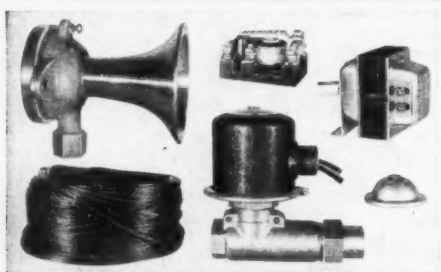
Use Your Seat Instead of Your Feet . . . TO CRUISE YOUR TIMBER

In comfort — and with a tremendous saving in time and money — you can make accurate stand estimates. Forest management problems, planting programs, timber plot mapping, fire lane and road planning — all can be accomplished in your office instead of in the woods with an Abrams Infra-Red Aerial Survey.

An Abrams air crew can photograph well over a half million acres of timberland in one day. The resulting prints, produced by Abrams experienced technicians, make it easy to determine types and sizes of forest growth, fire lanes, waterways, and all other terrain features.

FIND OUT HOW ABRAMS CAN SAVE YOUR TIME AND MONEY — WRITE TODAY FOR DETAILS OR FOR THE PUBLICATION "AERIAL SURVEYS AND MAPS FROM PHOTOGRAPHS"

ABRAMS AERIAL SURVEY CORPORATION
LANSING 1, MICHIGAN, U.S.A.



Kit consists of 1-A Cunningham Air Whistle; 115-volt A.C. Electric Valve; 115/24-volt Transformer; 24-volt Relay; pushbutton; two-conductor, low-voltage wire. Instructions.

WHISTLE HIM IN!

Cunningham Air Whistle signal kit provides a positive, *economical* signal system that overcomes heavy yard, machinery noises and long distances. Code wiring not required from pushbutton to 24-volt transformer. Your present air pressure setup is utilized. Pushbutton can be placed 1000-feet or more from whistle. No servicing or maintenance.

Write for Cost — Give Air Pressure Used and Distance Covered

Cunningham Air Whistles
4200 WEST MARGINAL SEATTLE 6, WASH.

Babcock

(*From page* 60)

Recognition of the principles announced in the foregoing theses led the directors of the Forest Genetics Research Foundation to organize this private, nonprofit corporation for the purpose of fostering research in the general field of forest genetics. The Forest Genetics Research Foundation will receive contributions for research in forest genetics and will channel them to the places where the research can best be done. It is also the desire of this Foundation to assist in bringing about the better support of forest genetics by the federal and state governments. The administrative office of the Foundation is 301 American Trust Building, Berkeley 4, California.

Your Shade Trees

(*From page* 35)

great number of birds, including robins, finches and waxwings.

Hawthorn—Where you find this small tree you will probably see cedar waxwings, as well as other birds throughout the year.

Holly—Both the red and the blue-black berries of our holly trees are preferred food of bluebirds, cardinals and mockingbirds.

Oaks—Even the acorns from our various oaks are a common food for many birds, including the wood duck, redheaded woodpecker, blue jay and brown thrasher.

Beech — Beechnuts are a favored food of blue jays.

Horsechestnut—This is a favorite nesting place for cedar waxwings and vireos.

Sassafras—Especially attractive to robins for nesting purposes.

Elderberry — This bush furnishes many birds with ample food in fall and winter.

Of course, all evergreens provide nesting places for birds and produce seeds which are relished by many types of game birds, as well as song birds.

In the northern latitudes, especially during the winter months, the food which trees or shrubs provide may be the difference between survival or starvation for many birds.

Plant a tree near your home and some bird will sing you a song to thank you for it.

CHEMICAL DEBARKING

In the Northeast, bark can be peeled economically from trees only during a short spring and summer period. Chemical treatment loosens the bark so that trees may be harvested free of bark for a longer cutting season. Chemical debarking permits more stable employment for our woods workers and alleviates bark disposal problems at our mills. Another example of our unending search for better forestry practices . . . and more efficient paper making at *every* stage of the process.

International Paper COMPANY

WOODLANDS DIVISION

220 East 42nd Street, New York 17, N.Y.

Best Wishes To

The American Forestry Association

Rhinelander PAPER COMPANY

Rhinelander, Wisconsin

MANUFACTURERS OF GLASSINE AND GREASEPROOF PAPERS PRODUCED FROM SPRUCE, BALSAM AND ASPEN PULPS. OWNERS AND MANAGERS OF RIPCO INDUSTRIAL FORESTS.

MEMBERSHIP APPLICATION

THE AMERICAN FORESTRY ASSOCIATION

919 17TH STREET, N. W., WASHINGTON 6, D. C.

Please enroll me as a Member of The American Forestry Association. Enclosed find $5.00 to cover dues for one year, (Including subscription to AMERICAN FORESTS Magazine). My name and address is:

*Name*_____

*Street*_____

*City and State*_____

11-53

Creeping Socialism?

(*From page* 22)

restoration, development, and utilization essential to the future of this country. Don't you agree?

Of course, problems of jurisdiction and duplication are likely to increase as more organizations become active in any given field of work. TVA has recognized the confusion, duplication, and sometimes friction arising from the lack of integration of the activities of many people, organizations, and agencies. (In 1950, the Valley had only eight federal civil employees per 1000 population—two thirds the national average of 12, according to the Byrd Committee. Since TVA was established the Valley's share of the nation's federal civil employees, as measured by the Bureau of Labor Statistics, has declined from 3.9 percent to 2.7 percent.) We have met with considerable success in developing effective teamwork among woodland owners, timber industries and operators, various organizations and institutions, and public agencies at all levels in demonstrating improved practices of many kinds. In the fields of reforestation, protection, management, and utilization we have many examples of these groups working together effectively for a common purpose without friction, without duplication, and with recognition by all of the responsibilities and prerogatives of others. We believe this represents real progress.

Let me give you a few examples of how we have worked to meet the situation we faced back in 1933.

The TVA Act emphasized the need for reforestation, but no tree seedlings were being produced for use in the Valley. Forest fire control was most inadequate. There were few private forests under management, and no agency was working to bring forest industries into the picture. In other words, there was practically no forestry program in the Valley area except on the national forests.

TVA established forest nurseries and produced millions of seedlings that were planted for erosion control demonstrations by CCC camps provided by the U.S. Forest Service for this work. After World War II working agreements were developed with the state foresters and extension services in each state, whereby

(*Turn to page* 66)

• A HEALTHY FOREST INDUSTRY helps keep America prosperous •

"cause of death unknown"

Pole blight, a mysterious killer of trees, threatens to spread through the valuable White Pine of Idaho. Potlatch Forests, Inc. and other members of the forest products industry keep a constant watch against it, cooperating with federal and state agencies engaged in research to find an answer to the threat.

Pole blight is only one of many natural enemies of trees. A well managed forest must be guarded against all. Potlatch employs trained professional foresters to combat such enemies and to keep our forest lands productive. Such conservation practices now mean future prosperity for America.

Potlatch Forests, Inc.

GENERAL OFFICES • LEWISTON, IDAHO

GROWERS AND MANUFACTURERS OF FOREST PRODUCTS

pfi

PULPWOOD . . .

The basic ingredient of NEWSPRINT—GREAT NORTHERN'S 2¼ million acres of Maine Timberland is conservatively managed to produce hundreds of thousands of cords of spruce and fir annually, in perpetuity. NOW a huge expansion program based on the utilization of hardwoods in newsprint manufacture, will make GREAT NORTHERN an even more important supplier of newsprint to the free press of America.

GREAT NORTHERN PAPER COMPANY

Bangor, Maine

WATER when and where you want it!

with **HARODIKES**

Portable Canvas Water Tanks

THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

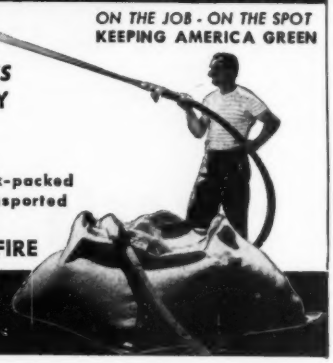
ON THE JOB - ON THE SPOT
KEEPING AMERICA GREEN

EXCLUSIVE FEATURES

- Self Supporting
- Easily Back-packed
- Ideal for Relay Pumping
- Easily Transported

Available in 150 & 300 gallon sizes

A WATER SUPPLY AT THE SCENE OF THE FIRE



Write TODAY for Full Information and Price List

HARODIKES INCORPORATED

NORTH DIGHTON, MASSACHUSETTS

Creeping Socialism?

(*From page* 64)

they have steadily taken over more and more responsibility for seedling distribution and contacts with planters, until now TVA does little more than grow the stock, coordinate the program, and evaluate results. At the present time we have started discussions with the states of Alabama and Tennessee to explore the feasibility of turning our nurseries over to them as soon as they are able to assure continued production. At the request of the Forest Service, the Army Engineers, the Soil Conservation Service, and the Tennessee Game and Fish Commission, we have grown seedlings for them under contract year after year, in addition to furnishing trees free to all agencies for planting within the Valley.

To avoid duplication in land management, we have transferred more than 150,000 acres of TVA reservoir lands to the U.S. Forest Service, to the National Park Service, and to the Fish and Wildlife Service, as well as to the states.

Very early in the life of TVA we discovered that there was very little information available regarding the forest resources or industries of the Valley, or pertaining to forestry problems peculiar to the Valley. Consequently we developed our Branch of Forestry Investigations to provide information urgently needed and not otherwise available. We are not competing with or duplicating the studies of the Forest Experiment Stations any more than the ten stations of the Forest Service are duplicating each other's work.

We work on related problems peculiar to this region. Many of these investigations have been carried on in close cooperation with the Forest Service, and often at their request. In projects of laminated lumber, wood hydrolysis, and wood preservation, we have conducted pilot plant tests at the request of the Forest Products Laboratory. When we started in the Valley, the Agricultural Experiment Stations engaged in practically no forestry studies. We have interested them in tree crop investigations and fence post preservation to the degree that they are now prepared to carry on these projects themselves. This is a start in the direction we are working.

(*Turn to page* 72)

CONGRATULATIONS to the members of The American Forestry Association for the fine job done throughout the years in establishing better forestry practices.

It is essential that sound conservation practices and intelligent management of our forests be supported by all of our populace in order to protect one of the nation's greatest resources.

Sutherland
PAPER COMPANY
KALAMAZOO • MICHIGAN

ANNOUNCING . . .

A GREAT NEW BABY!

THE I.E.L. FEATHERWEIGHT MODEL H.A.

WITH 5 FULL HORSEPOWER . . .
AND BUZZ SAW CUTTING ACTION
"NEVER ANYTHING LIKE IT BEFORE!"

ONLY
$248.00
WITH 15" ATTACHMENTS
$251.00
WITH 18" ATTACHMENTS
F.O.B. SEATTLE

WRITE FOR INFORMATION AND NAME OF NEAREST DEALER

Users report cutting action twice as fast as any other chain saw they've ever used. Work-test the sensational new I.E.L. Featherweight Model H.A., I.E.L.'s lightweight masterpiece of cutting power. Its revolutionary new narrower kerf, shorter pitch chain gives you more teeth to the foot per minute than ever before possible. For the most amazing, productive and dependable lightweight cutting tool on the market, test the I.E.L. Featherweight Model H.A. today.

I.E.L. has chain saws designed to meet all cutting requirements. Whatever your need, there's an I.E.L. made for the job.

NATION-WIDE SALES AND SERVICE

I·E·L
Power CHAIN SAWS

1112 WESTLAKE NO. • SEATTLE 9, WASH.

TIMBER FOR THE FUTURE

Good timber management by all landowners, large and small, is one answer to America's need for a permanent supply of wood products.

TIMBER CROPPING DEMONSTRATION
CONDUCTED BY THE SIMPSON LOGGING CO.
This crop of timber is being harvested by approved forestry methods.
① To improve the quality of the timber stand.
② To put the growing power of this soil into good trees — not poor ones.
FOLLOW IT'S HISTORY
PRODUCTION RECORD
PROTECT YOUR FORESTS FUTURE
CROP. DON'T LOP YOUR WOODLAND
KEEP WASHINGTON GREEN

SIMPSON LOGGING COMPANY

WOOD PRODUCTS PLANTS at Shelton and McCleary, Washington; Klamath and Arcata, California; Everett Pulp & Paper Company Division, Lowell, Washington. EXECUTIVE OFFICES AT SEATTLE, WASHINGTON.

A letter to the
AMERICAN FORESTRY ASSOCIATION
FROM
Lucky Strike

Gentlemen:

The American Tobacco Company, maker of Lucky Strike cigarettes, sends its sincere best wishes for a productive Convention and a highly successful year of fire prevention.

Again this year, we proudly lend our support to your tireless task of protecting the nation's forests—truly, one of its priceless resources—from the ravages of fire.

Through the medium of Lucky Strike radio and television programs, millions of listeners are repeatedly warned against careless and thoughtless discarding of matches and cigarettes in any dry and wooded areas.

We believe, with you, in keeping the public alert to the tremendous destruction to our great forests—the cost to all of us—which carelessness alone can cause.

The American Tobacco Company

AMERICA'S LEADING MANUFACTURER OF CIGARETTES

TRADEMARK OF QUALITY LUMBER

C. D. Johnson

LUMBER COMPANY

Manufacturer: WEST COAST LUMBER

Mills: TOLEDO, OREGON

Shipments: RAIL AND WATER

SALES OFFICES: AMERICAN BANK BUILDING • PORTLAND 5, OREGON

MEMBER WEST COAST LUMBERMEN'S ASSOCIATION

DIVISION OF GEORGIA—PACIFIC PLYWOOD COMPANY

HERE'S HOW THE PRACTICE OF GOOD FORESTRY CAN PAY OFF....

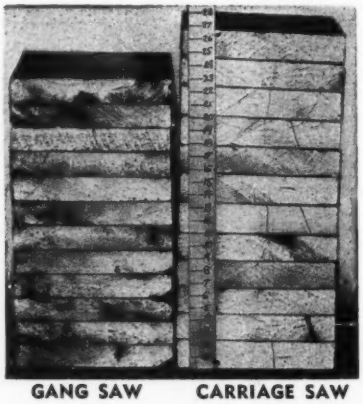
From the Southern Pine Regions to the Pacific Northwest Timberlands, from the Maine Woods to California and in Canada, Sunbo and Super Gang Saws are contributing greatly to the practice of Good Forestry. This equipment has made profitable the utilization of virtually the entire forest crop by the processing of smaller logs which formerly were burned as waste or left to rot in the forest. At the same time fire hazard in the woods has been reduced and the reproduction of new forests has been hastened.

These Gang Saws provide greater accuracy and precision thereby reducing wastage and increasing the yield in board feet as much as 30%.

Many saw mills, too, are now getting better utilization and more efficient operation by installing a Sunbo Gang Saw as an auxiliary to their big mill or as a partner to their circular mill. That's why it will pay you to consult us.

MILL ENGINEERING & SUPPLYCO.

3311 FIRST AVENUE SOUTH • SEATTLE 4, WASHINGTON



GANG SAW CARRIAGE SAW

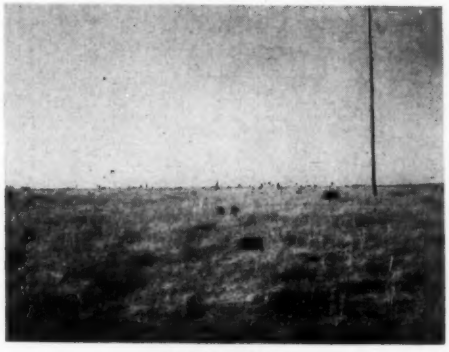
The 12 pieces of 2 x 12 GANG SAWN shown above have a uniform thickness of 1⅞" each, which is well within the allowed rough thickness limits for dressing.

The 12 pieces of CARRIAGE SAWN lumber have a total thickness of 27" or an average of 2¼" per piece.

THIS MEANS 20% MORE LOGS USED TO OBTAIN THE CARRIAGE SAWN PILE THAN THAT OF THE GANG SAW.

Write today for complete information on how you can increase your yield and production with one of our GANG MILLS. There is a model to fit your operation.

THE OLD WAY AND THE NEW!



OLD WAY
WASTE STUMP LAND

NEW WAY

26 year old planted slash pine being thinned a second time for pulpwood.

We believe these photographs of two nearby areas in south Louisiana, both cutover about the same year, eloquently tell the story of southern forestry. The old way is contrasted with the new, and the tremendous job potential of the South's 183 million acres of commercial forest land is suggested.

GAYLORD CONTAINER CORPORATION
Bogalusa, Louisiana

TREES ARE GOOD INSURANCE

A cash tree crop is growing up with this lad. Trees are good insurance for his future, as they will provide money for his education. Tree seedlings planted now may be ready for their first harvest within 20 years.

More idle acres planted in trees today and protected from fire mean a future income for the land owners and more raw materials for America's wood-using industries.

P. H. GLATFELTER CO.

THE GLATFELTER PULP WOOD CO.

Spring Grove, Penna.

Official
U. S. FOREST SERVICE FIELD CLOTHES
Also
UNIFORMS
For Rough Field Wear
Complete price list on request
The Fechheimer Bros. Co.
Uniforms for Over 70 Years
CINCINNATI 2, OHIO

TREE SEEDS
FOR FORESTERS
and
NURSERYMEN
Ask for Catalog
HERBST BROTHERS
678 Broadway, New York 12, N. Y.

Creeping Socialism?

(*From page* 66)

These are but a few of the examples I might mention to illustrate how we have tried to avoid duplication and advance integration. Others following the same pattern might be cited in the fields of protection, management, and utilization.

We have been assured repeatedly by the Forest Service and the state foresters that TVA is not duplicating their work. If you will read the testimony of witnesses at the June 26 hearings before the Senate Subcommittee on TVA Appropriations (H.R. 5690), you will find that the state forester of Tennessee, authorized by the other Valley state foresters to speak also for them, makes this point emphatically. Two former members (Baggenstoss and Faust) of the Tennessee Conservation Commission testified that Tennessee continues to need TVA help.

One final point about *integrated* resource development in the Tennessee Valley which is a unique and essential part of the TVA idea. We have sought to identify the place of forestry in this picture. We have concerned ourselves with the interrelation of forests and watershed protection as it relates to flood control, navigation, and hydroelectric developments; also forestry in relation to soil erosion control, forestry in relation to fish and game resources and recreation, forestry in relation to agricultural and industrial development. Real progress has been made in this effort on the part of professional people in many fields who are working at the Valley program, whether they be in federal, state, or other public and private organizations. This is a function which only foresters working in the TVA staff could accomplish for TVA and the region.

I realize that this reply is lengthy, but the questions you raise cannot be answered briefly. I hope from this presentation you have a better understanding of what we are trying to do, why we are trying to do it, and why we as foresters believe it is important that TVA continue its work. You can rest assured that we will transfer everything transferable as rapidly as the states are able to take on additional functions and responsibilities.

The Sales Slip is Vital to Forestry

Fundamentally, there is only one reason for modern forest management.

A sale.

If forest products were not ultimately sold, and consumed, there would be no need for conservation and utilization of the resource.

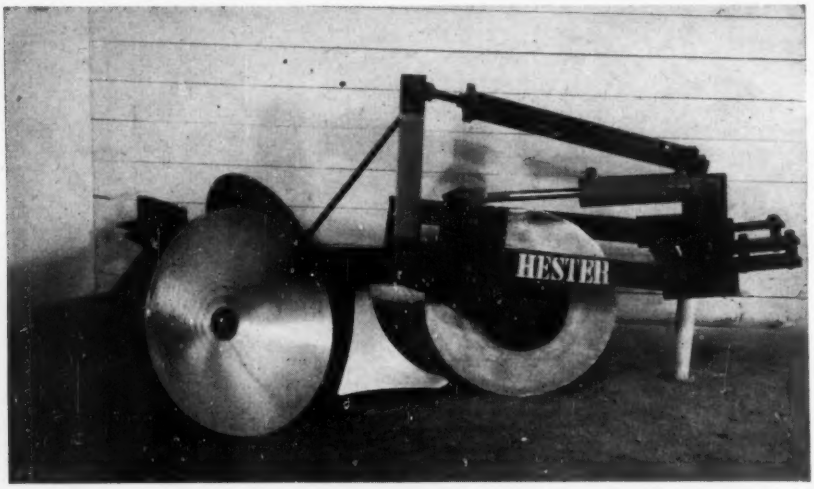
And there would be no *income* to carry on the forest program.

That's why St. Paul & Tacoma Lumber Company strives to develop the whole picture. Working both as an individual company—and in cooperation with others in the industry—we direct our efforts toward a continuing betterment of forestry practice . . . and toward a sustained sales demand for the products of that practice.

ST. PAUL & TACOMA LUMBER COMPANY

TACOMA 2, WASHINGTON

HOME OF THE TREE LIFE FAMILY OF FOREST PRODUCTS



New HESTER Fire-Line Plow

At Work! See how the discs throw dirt! Cutting width approximately 42". Effective line width approximately 7'.

FAST, RUGGED, MANEUVERABLE!

The picture shows why the Hester #1000 Plow does the job better. The 24" rolling coulter is big enough to penetrate the surface trash without dragging or riding out. This permits the nodular iron middlebuster to open the furrow and the discs to throw dirt. The wings at the rear prevent dirt from falling back into the line, and a skid plate between the discs prevents the plow from "hogging" down.

The plow is mounted to the tractor swinging drawbar which allows it to follow in sharp curves. A unique free-floating hydraulic lift lets the plow ride over logs and rocks, provides even depth of cut over rough terrain, yet makes it easy to lift plow clear of ground for transporting, loading and to get in and out of tight corners. Timken bearing equipped throughout. At present for International TD6 only. Other models forthcoming.

For complete information about

HESTER Fire-Line Plows

Write the Hester Plow Company, Inc., Jacksonville 6, Fla.

Sandvik No. 1 Bush-Axe

FASTER — SAFER — EASIER THAN THE COMMON AXE FOR BRUSH AND SAPLINGS

Light in weight, balanced for use with one hand. Thin, flat, razor-sharp, Swedish Steel blade is double-edged and replaceable. Write Dept. F for circular and Foresters' Tool Catalog.

Sandvik Saw & Tool
DIVISION OF SANDVIK STEEL, INC.

47 WARREN STREET
NEW YORK 7, N. Y.

RECOMMENDED READING

Round River: From the Journals of Aldo Leopold, edited by his son, Luna B. Leopold. Published by Oxford University Press, 114 Fifth Avenue, New York City. Price $3.

To anyone who knows the charm of Aldo Leopold's writing in "A Sand Country Almanac," this collection of his unpublished journals and essays will come as a new delight. It is a record of reflections and observations on nature by a man who loved it and lived with it, a mood for all who would share the mood of Izaak Walton when he wrote, "I have laid aside business, and gone a-fishing."

As Aldo Leopold takes you by canoe into the wilds of Canada on deer hunting trips or to Mexico with bow and arrow, you will realize that you are in the very special company of a complete angler and archer. The daily entries in his journals were written in camp on his many field trips—hunting, fishing and exploring—and indicate the source of ideas on land ethics found in his longer essays. The essays are taken from more contemplative notes still in manuscript when Aldo Leopold died in 1948, after fighting a grass fire on a neighbor's farm in Wisconsin.

Life of Pierre Charles L'Enfant, by Dr. H. Paul Caemmerer. Published by National Republic Publishing Co., 511 11th St., N. W., Washington, D. C. 480 pages, illus. Price $10.

This is a deluxe book written by a man who is a profound student of the city of Washington. The author spent eight years in study and travel to accumulate the data on the life and times of L'Enfant, the man who planned the circles, broad avenues and expansive parks that make Washington the most beautiful among the capital cities of the world. Author Caemmerer, secretary of the National Commission of Fine Arts, paints a vivid picture not only of L'Enfant the man, but also of that critical Revolutionary War period during which he lived and worked. Like his better known contemporary, Lafayette, L'Enfant was a Frenchman and had a distinguished career during the Revolutionary War. After serving on Washington's personal staff during the war, L'Enfant, an

(*Turn to page* 76)

ASSOCIATION OFFICERS

Don P. Johnston ● *President*
W. J. Damtoft ● *Vice-President*
George O. White ● *Vice-President*
John M. Christie ● *Treasurer*
Lowell Besley ● *Executive Director-Forester*
Fred E. Hornaday ● *Secretary*

BOARD OF DIRECTORS

Bryce C. Browning, 1954—Ohio, Secretary Treasurer, Muskingum Watershed Conservancy District.

P. R. Camp, 1955—Virginia, Camp Manufacturing Company.

Leonard G. Carpenter, 1955—Minnesota. President, McCloud Lumber Company.

Erle Cocke, 1954—Georgia, President, Fulton National Bank, Atlanta.

Dr. Wilson Compton, 1954—Virginia.

Samuel T. Dana, 1953—Michigan, School of Natural Resources, University of Michigan.

Elwood L. Demmon, 1955—North Carolina. Director, Southeastern Forest Experiment Station.

D. C. Everest, 1955—Wisconsin, Chairman. Marathon Corporation.

Karl T. Frederick, 1955—New York, Chairman State Conservation Council.

George W. Merck, 1953—New Jersey, President, Vermont Forest and Farmland Foundation, Inc.

Dr. Elmer G. Peterson, 1954—Utah, Utah Research and Development Foundation.

Robert W. Sawyer, 1954—Bend, Oregon.

Edward P. Stamm, 1953—Oregon, Vice-President, Crown Zellerbach Corporation.

James J. Storrow, 1953—New Hampshire Society for the Protection of New Hampshire Forests.

H. W. Voorhees, 1953—New Jersey, President, New Jersey Farm Bureau.

HONORARY VICE-PRESIDENTS

Ovid Butler—Maryland, Director Emeritus The American Forestry Association.

E. J. Condon—Illinois, Public Relations Director, Sears-Roebuck Co.

James G. Eddy—Washington, Founder, Forest Genetics Research Foundation.

Ross Farrens—Florida, Farrens Tree Surgeons, Inc.

Stanley G. Fontanna—Dean, U. of Michigan School of Natural Resources.

George A. Garratt—Connecticut, Dean, School of Forestry, Yale University.

Christopher M. Granger—Maryland, Retired. U. S. Forest Service.

William B. Greeley—Washington, West Coast Lumbermen's Association.

Clyde S. Martin—Washington, Weyerhaeuser Timber Company.

Leslie A. Miller—Wyoming, Former Governor of Wyoming.

Fred Morrell—Virginia, Retired, U. S. Forest Service.

Joseph E. McCaffrey—South Carolina, International Paper Company.

Henry T. McKnight—Virginia, Forest Farmers Association Cooperative.

John McSweeney—Ohio, Former Member of Congress.

Randolph G. Pack—New York, President. Charles Lathrop Pack Forestry Foundation.

Lloyd E. Partain—Pennsylvania, Farm Market Director, *Country Gentleman*.

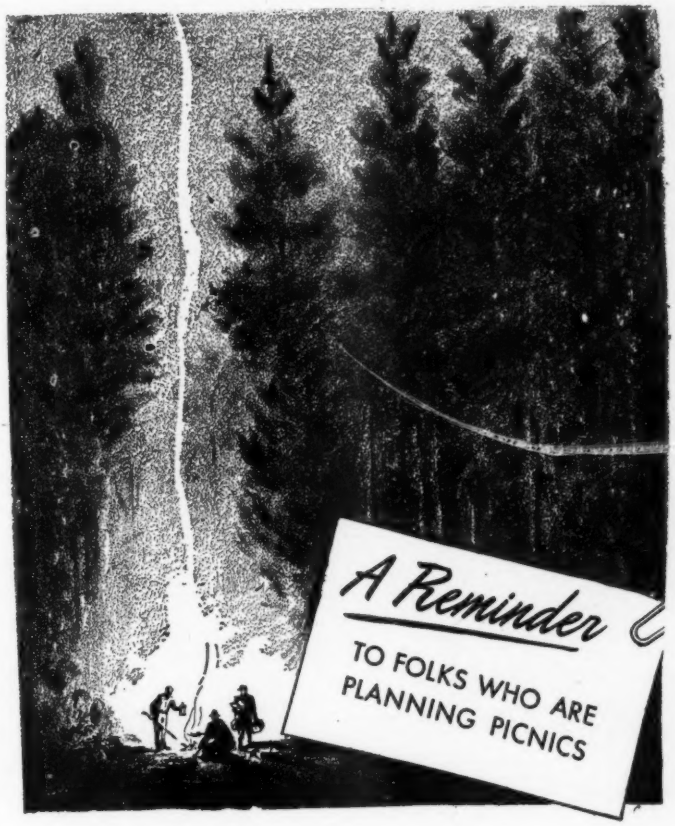
X. L. Pellicer—Florida, St. Augustine National Bank.

W. S. Rosecrans—California, Chairman, California State Board of Forestry.

A. R. Watzek—Oregon, Roaring River Tree Farm.

William P. Wharton—Massachusetts, President, National Parks Association.

Vertrees Young—Louisiana, Gaylord Container Corporation.



Green forests are an American heritage. We can both use and keep our forests if we protect them from fire and harvest them wisely.

THE CHESAPEAKE CORPORATION OF VIRGINIA

WEST POINT VIRGINIA

FIRE PROTECTION TOWERS

OF GREAT STRENGTH AND DURABILITY

Permanent and substantial structures to provide shelter and security for the observer and his instruments. Capable of resisting fire, storm and high wind. Steel parts hot process galvanized after fabricating. Standard equipment in many states.

EASY TO ERECT

Towers are assembled by building up from foundations a piece at a time. All connections are secured with galvanized bolts furnished by us.

EXCELLENT PORTABILITY

Towers are shipped knocked down in pieces and bundled in convenient sizes to transport and handle.

Write for specific information on towers to meet your needs.

MANUFACTURED BY

AERMOTOR CO.

2500 ROOSEVELT ROAD
CHICAGO 8, ILL.

Recommended Reading

(*From page 74*)

architect and engineer, remodeled Federal Hall for the inauguration of our first president in 1789. How two years later he was commissioned by Washington to plan the young nation's capital and how under the direction of Washington and Thomas Jefferson the final plan was evolved is told in great detail in this book. Included in the book's more than 100 illustrations are reproductions of letters and sketches that give the reader a keen insight into the personalities and circumstances responsible for the planning of the City of Washington.

Beatty's Cabin, by Elliott S. Barker. Published by the University of New Mexico Press. 220 pages, illus. Price $4.50.

Few realize that the Pecos River of wild west tales from Texas is the same Pecos River of the Sangre de Christo mountains in northern New Mexico, of which Elliott S. Barker writes in "Beatty's Cabin."

It was sixty years ago when Elliott was a boy of ten that he accompanied his rancher father to the High Pecos country and camped at George Beatty's cabin. The story covers a lifetime of experiences and anecdotes of life and death within the 100-mile perimeter of the Pecos headwaters, made up of many peaks rising above timberline. In this fan-shaped drainage area Elliott camped, hunted, trapped and worked as rancher, guide and forest ranger.

The book tells how the writer, Forest Supervisor K. D. Flock and Erle Kauffman, founder of AFA's Trail Riders, took a group of riders through the Pecos country. It details the accomplishments of Trail Riders in helping to acquaint more and more people with the nation's wilderness areas, and their significance.

* "Beatty's Cabin" follows another book by Elliott S. Barker, "When the Dogs Barked 'Treed'," in which he narrates exciting hunting trips all over northern New Mexico and southern Colorado. But "Beatty's Cabin" sticks to the Pecos High country of which the old prospector cabin is roughly in the center. (*Review by Don P. Johnston.*)

(Also see list of publications available from AFA, page 78.)

TELLING OUR STORY OF CONSERVATION

• This fire weather indicator is part of our fire protection system and is public evidence of our new forestry program.

• On June 12, 1953, Puget Sound Pulp & Timber Company dedicated the first industrial Tree Farm in Skagit County.

• Purpose of the Tree Farm is a continuous supply of wood for our bleached sulphite pulp mill at Bellingham. This plant also produces container board, industrial alcohol, lignin derivatives, and other by-products.

• It is the aim of the company to materially increase the productivity of our Tree Farm areas to provide long range security for our employees, the community, and the stockholders.

PUGET SOUND PULP AND TIMBER CO.

Mills and Offices at Bellingham, Washington

Indispensable books for the forester

A Natural History of Trees *of Eastern and Central North America*

Donald Culross Peattie's classic volume combining the identification of tree species with their history and a wealth of tree lore, lavishly illustrated by Paul Landacre. $5.00

A Natural History of Western Trees

The complete guide to over 200 trees of western North America, full of color and romance. By Donald Culross Peattie with Paul Landacre's exquisite drawings. $5.00

Buy them at any bookstore or from

Houghton Mifflin Co.
2 Park St., Boston 7, Mass.

AMERICAN FORESTS

is one of the many magazines

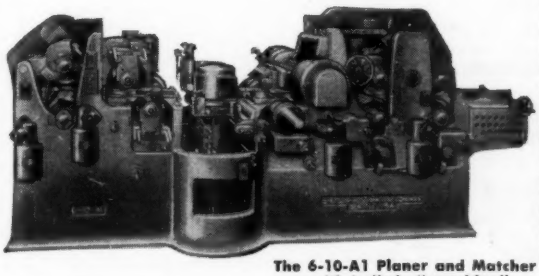
from our presses

A fine job, isnt it?

MONUMENTAL PRINTING CO.
3110 ELM AVENUE
BALTIMORE 11, MD.

STETSON-ROSS MATCHERS GIVE PROFITS ON ALL WE PRODUCE, WHETHER CEDAR, HEMLOCK, OR SITKA SPRUCE
NORTHERN PINES AND HARDWOODS MUST BE MILLED WITH PRECISION; SO THE STETSON-ROSS MATCHER IS OUR DECISION.
OUR STETSON-ROSS WINS TOPMOST BILLING, FOR HIGH PRODUCTION AND PRECISION MILLING
WHETHER ON SOUTHERN HARDWOOD, OR SOUTHERN PINE, WITH A STETSON-ROSS MATCHER, RESULTS ARE FINE
STETSON-ROSS IS ALWAYS OUR FIRST CHOICE, SIR, FOR FINISHING REDWOOD PONDEROSA PINE AND FIR
NUESTROS ASERRADEROS DE MADERA QUE SON LOS MÁS MODERNOS DE MÉXICO USAN LA CEPILLADORA y MACHIHEMBRADORA STETSON-ROSS POR LA GRAN PRODUCCIÓN y LA CALIDAD MAXIMA

Regardless of your species of lumber



The 6-10-A1 Planer and Matcher with built-in "cartridge" profilers

STETSON-ROSS MACHINE COMPANY
SEATTLE 4, WASHINGTON

Export Division, 301 Clay St., San Francisco 11, California

WHEREVER you find quality lumber being produced in high volume, and at lowest cost, you will find Stetson-Ross Planers and Matchers at work. Today in all of the major lumbering areas of the United States as well as in Canada, Alaska, Mexico, the Hawaiian Islands and the Philippines you will find modern Stetson-Ross equipment milling all species of hard and softwoods.

To all dollar-wise millmen throughout the lumber world we suggest: benefit by the engineered advantages found only in Stetson-Ross Planers and Matchers.

Stetson-Ross manufactures a complete family of planing mill machines:

1. Planers and Matchers
2. Automatic Feeding Tables
3. Random Length Trimmers
4. Bundle Trimmers
5. Moulders
6. Timber Sizers
7. Tilting Unloader Hoists
8. Tilting Reloader Hoists
9. Rapid Cutoff Saws
10. Cutterhead Grinders and Jointers
11. End Matchers

You are invited to request information on any of these machines.

DATES TO REMEMBER!

SEPTEMBER 6, 7, 8, 9, 1954

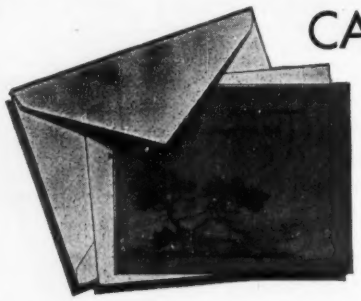
Annual Meeting

of

The American Forestry Association

MULTNOMAH HOTEL

PORTLAND, OREGON



CARDS OF WOOD

say "Merry Christmas"

Your friends will exclaim over and treasure these charming, novel CARDS OF WOOD. Wafer-thin, flexible, made of Holly, Pine, Cedar and other exquisitely grained woods, 3¾" x 4¾", printed with appropriate designs and messages.

Special Offer: Send only $1 for 6 ($1.50 worth!) assorted beautiful cards with envelopes and illustrated folder. You'll want to re-order before Christmas!

BOOKMARKS OF WOOD make attractive, inexpensive gifts. Made of the same lustrous, satiny woods, gay with colored ribbons and tree decorations. $1 for 4 all different, with greeting cards, envelopes. Order Now!

CARDS OF WOOD Manlius 17, New York

INGERSOLL SHOVELS

New X-tra Light-Models with Blade Edges Guaranteed SPLIT-PROOF! Shovels, Spades and Scoops of TEM-CROSS Steel (interlocking mesh-grain structure) are light, strong, and hold edge unusually well.

INGERSOLL STEEL DIVISION
Borg-Warner Corporation • New Castle, Indiana

DRAFTING WORK
by Romola Drost
6 Inlet Drive, St. Augustine, Fla.

Maps from survey notes or rough drafts, charts, graphs, line and color illustrations, posters and copywork. 10 years experience in forestry mapping and illustrations for publications. Quotations and order forms upon request. Samples of work available.

SUPERIOR COMPASS

Precision instrument, radium dial, water-proof, $5.95 retail, with instructions. At your dealer. Dealers: Write to Superior Magneto Corp., Long Island City 5, N. Y.

Oregon Trail Box Co.
Bend, Oregon

Riegel
CAROLINA

RIEGEL CAROLINA CORPORATION
Acme, North Carolina
RIEGEL WOODLANDS CORPORATION
Bolton, North Carolina
RIEGEL PAPER CORPORATION
260 Madison Avenue, New York 16, N. Y.

List of Publications Now Available from AFA

Forest Fire, A True Story of Our Forests—by Smokey, the forest fire preventing bear. A sixteen page four-color comic book that tells the story of our forests and why we should take care of them. *One to 49 copies .10 each; 50 to 499 copies .07 each; 500 to 999 copies .04 each; 1M to 9M $30 per thousand. Quotation on larger quantities upon request.*

Members of the Association are entitled to a 10 percent discount on the following books:

Knowing Your Trees—(Eleventh Edition) by G. H. Collingwood and W. D. Brush. An illustrated guide to tree identification including 150 important American trees. Photographs of each tree—winter and summer—its leaf, bark, flower and fruit are presented, along with range map. The text describes the botanical features of each tree, its range and habits, its uses and economic importance. *Price $5.00*

Teaching Conservation—by Ward P. Beard. Designed especially to provide teachers with the basic understandings for effective teaching of conservation in the schools. *Price $1.50*

Managing Small Woodlands—by A. Koroleff and J. A. Fitzwater. A guide to good and profitable uses of forest land. It tells, step by step, how farmers and other owners of small timber tracts can grow and harvest repeated crops of pulpwood, ties, sawlogs, poles and bolts for market and home use. *Price $1.00*

Trees Every Boy and Girl Should Know—drawings by Calvin Fader. Contains hundreds of drawings illustrating, with brief text, 76 important trees species and their uses. In addition, 23 famous individual trees are described and their histories recounted. *Price $.50*

Reprints of articles which have appeared in "American Forests"—

Available free per single copy upon individual request as long the current supply lasts

Ref. No.

1. Feb. 1932—**The Tree in the Architecture of Washington,** by John C. Merriam—8 pp.
2. 1937—**Forest Activities for Everybody,** Plans for Arbor Day, Forest Week, Conservation Field Day—4 pp.
3. Dec. 1939—**The National Community Christmas Tree,** Elizabeth Peeples—8 pp.
4. Aug. 1941—**Written in the Syrian Desert,** by W. C. Lowdermilk—8 pp.
5. Dec. 1941—**The President's Christmas Tree,** by Nelson C. Brown—6 pp. (Roosevelt, F. D.)
6. July 1943—**New Chestnuts for our Forests?,** by Russell B. Clapper—4 pp. (Breeding)
7. May 1944—**This is the Piney Woods,** by Inman F. Eldredge—8 pp. (South)
8. Feb. 1945—**My Favorite Tree,** by Louis Bromfield—1 p. (Sycamore).
9. Aug. 1946—**My Favorite Tree,** by Kathleen Norris—1 pp. (Redwood).

10. July 1947—**Do We Need a Shade Tree Service?,** by Ernest J. Schreiner—4 pp.
11. Dec. 1947—**Four Flaming Days,** by A. G. Hall—4 pp. (Bar Harbor, Maine).
12. Jan. 1948—**What Shall We Do About Quetico-Superior,** by A. G. Hall—7 pp. (Minn.).
13. Feb.-Mar. 1948—**The Case of the Public Range,** H. H. Chapman—12 pp.
14. Apr. 1948—**A Foundation for the Forest,** Ovid Butler—4 pp. (Pack Foundation).
15. Apr. 1948—**Remember the Chestnut,** by Amanda Ulm—6 pp. (Blight).
16. July 1948—**All's Not Well in the National Parks**—Editorial—1 pp.
17. Nov. 1948—**Canoeing Along the Border**—3 pp. (Quetico-Superior, Minn., Ont.)
18. Mar. 1949—**Planting America,** by Erle Kauffman—7 pp.
19. June 1949—**The Dilemma of Our Parks,** by Newton B. Drury—8 pp.
20. Jan. thru Mar. 1950—**Dams Are Not Enough,** by Bernard Frank & Anthony Netboy—16 pp. (Land Use, River Basin Development).
21. May 1950—**What You Should Know About C.V.A.**—A. G. Hall—8 pp. (Columbia Valley).
22. Jan. 1952—**Abuses Under the Mining Laws,** by Cleveland van Dresser—6 pp.
23. Mar. 1952—**Abuses Under the Mining Laws,** by Cleveland van Dresser, **You're Being Robbed**—6 pp.
24. Dec. 1952—**Forests for the Future**—32 pp.
25. Feb. 1953—**Men with Microscopes**—Editorial—1 p. (Insects and Disease).
26. Feb. 1953—**The Silent Saboteurs,** A. G. Hall—6 pp. (Insects and Disease).
27. Apr. 1953—**They Still Covet Our Lands,** Arthur H. Carhart—4 pp. (Grazing Laws).
28. May 1953—**1953 Census of Community Forests in the United States**—1 p.
29. June 1953—**For Distinguished Service**—4 pp. (AFA Convention Awards).
30. Apr. 1953—**Conservation Camporee,** by Ted S. Pettit—4 pp.
31. Sep. 1953—**Left-Over Woodpiles of Washington,** by W. B. Greeley—4 pp.
32. Oct. 1953—**Tree Variety,** by R. R. Fenska (Your Shade Tree series)—2 pp.
33. Oct. 1953—**The Oak Wilt Problem,** by Marvin Fowler (AFA's Clinic)—4 pp.
34. Oct. 1953—**Green Valleys,** by Erle Kauffman—4 pp.

List of Reprints for individual states

s1. Ark.—July 1945—**The Fast Growing Forests of Arkansas,** by Arthur M. Emmerling—8 pp.
s2. Colo.—June 1945—**The Second Mile Up is Forested,** by J. L. Dean—6 pp.
s3. Conn.—Mar. 1948—**The Forest Frontier in Connecticut,** by Henry S. Kernan—3 pp.
s4. Fla.—Feb. 1948—**Florida's Forests are Different,** by Ed. R. Linn—4 pp.
s5. Ida.—Nov. 1947—**Forests of Idaho,** by John B. Woods—5 pp.
s6. Ill.—Jan. 1946—**Forest Resources of Illinois,** by Roy C. Brundage & A. B. Crow—4 pp.

"FROM WOODS TO GOODS—QUALITY COUNTS"

These too, we count as our assets:

The assurance of perpetual production through sustained-yield, multiple-use forest management.

The pride of our people in maintaining "Quality Counts" products.

The achievement of advances in science and technology by students of forestry and chemistry, under scholarships and fellowships.

The promise of a stronger and better nation through sincere and effective cooperation among industry, government and the people.

The blessings bestowed by nature upon our country in the ability of our forests, farms and people to produce.

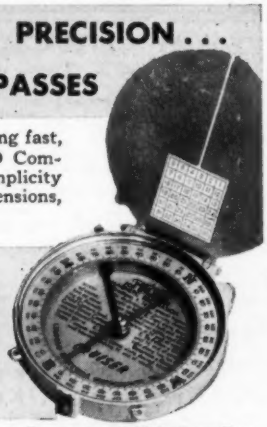
The broad horizons of the future that are ours because of a sound and stable past.

And ..... **YOUR GOODWILL**

GULF STATES PAPER CORPORATION
TUSCALOOSA, ALABAMA

PROFESSIONAL STANDARD OF PRECISION...
LEUPOLD *Engineered* COMPASSES

Ask any veteran forester whose job depends on making fast, accurate surveys. He will tell you that LEUPOLD Compasses set a professional standard for accuracy, simplicity and convenience. In no other compasses are dimensions, weight and size of dial so ideally proportioned.



Timber cruisers and foresters select this precision made compass for its compact size and exclusive LEUPOLD features. Needle measures 2½", yet outside maximum diameter of case is only 3⅝". Easy-to-read dial is graduated to single degrees and marked for both quadrant and azimuth readings. Coin operated external magnetic declination adjustment. Township plat. **$12.75**

LEUPOLD CRUISER COMPASS

LEUPOLD FORESTER COMPASS

Surveyor's staff compass of highest quality. Furnished with ball and socket joint for mounting on Jacob's staff or tripod. Graduated straight edge for plane table work. Permanently mounted circular spirit level. 3¼" needle. Exclusive LEUPOLD external magnetic declination adjustment. Comes in saddle leather carrying case with belt loop.
MODEL A. **$40.00**
MODEL B with vertical angle scale and sight, and 5-min. vernier.... **$50.00**
Choice of degree, per cent, topographic scale.

ALL MAKES OF SURVEYING INSTRUMENTS AND COMPASSES REPAIRED

Foremost in manufacture of precision engineering instruments since 1907

LEUPOLD & STEVENS INSTRUMENTS, INC.
4445 N. E. GLISAN ST., PORTLAND 13, OREGON

AT YOUR INSTRUMENT DEALER OR USE THIS MAIL ORDER COUPON

Enclosed is ☐check, ☐M.O. for $_____
send LEUPOLD Compass checked (no c.o.d.)
_____ **CRUISER @ $12.75**
_____ **FORESTER,** Model A @ **$40.00**
_____ **FORESTER,** Model B @ **$50.00**
☐Degree, ☐Per cent, or ☐Topographic scale.
Send literature on ☐Compasses, ☐Levels.
Name_____
Address_____
City_____ Zone____ State_____

DEDICATED TO
FOSTERING A
CONTINUING
SUPPLY OF
TIMBER

TREE FARMERS, INC.
Missoula, Montana

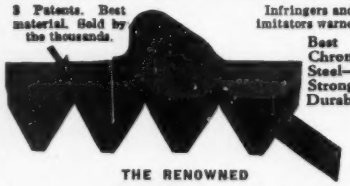
NORTHERN TREE COMPANY
Consulting and Operating Foresters
Thomas F. Schweigert, *Pres.*
Penney Building
Petoskey, Michigan

NATHAN D. CANTERBURY
Consulting Forester
4214 ST. EMANUEL ST.
HOUSTON 4, TEXAS

FOREST METEOROLOGIST
Fire Danger Rating . . . Weather Instruments
Sales and Service . . . Weather Modification
Research . . . Forecasts and Advisories
J. B. "Ben" MELIN
2806 32nd Ave. S. Seattle 44, Wash.
Telephone RA inier 0356

RAYMOND E. STEVENS
Consulting Forester
Land and Timber Valuations — Forest Surveying and Mapping — Trespass and Damage Appraisals — Forest Management and Silvicultural Practice — Timber Marking — Forest Planting
4416 McCulloch St. DULUTH 4, MINN.
Telephone 5-4251

NORTHEAST FORESTRY SERVICE
Consulting Foresters
Forest Management — Timber Production
Forest Products Marketing
262 Blauvelt Rd., Pearl River, N. Y.

3 Patents. Best material. Sold by the thousands.
Infringers and imitators warned.
Best Chrome Steel—Strong, Durable

THE RENOWNED
CHARLES H. RICH
"Forest Fire Fighting Tool"
Write for Prices and Descriptions
Geneva Rich Bickel WOOLRICH, PA.

s7. Ind.—June 1945—**Our Remarkable Hoosier Hardwoods,** by Roy C. Brundage—7 pp.
s8. Iowa—Apr. 1946—**Hawkeye Woodlots,** by J. A. Donery—5 pp.
s9. Kans.—Apr. 1948—**Woodlands of Kansas,** by John B. Woods—3 pp.
s10. La.—Oct. 1945—**Louisiana—Southern Forestry's Proving Ground,** by Ed. R. Linn—5 pp.
s11. Me.—June 1948—**The Forests of Maine,** by John B. Woods—4 pp.
s12. Nebr.—Aug. 1946—**Tree Planter's State,** by John B. Woods—4 pp.
s13. N.H.—Aug. 1947—**Granite State Woodlands,** by John B. Woods—4 pp.
s14. N.Y.—July 1947—**Forest Riddle of New York,** by Henry S. Kernan—3 pp.
s15. Okla.—Dec. 1948—**Forests of Oklahoma,** by A. M. Emmerling—4 pp.
s16. Penna.—Sept. thru Oct. 1944—**The Anthracite Region Discovers Its Surface,** by R. D. Forbes—8 pp.
s17. R.I.—Sept. 1944—**The Forests of Rhode Island,** by P. L. Buttrick—4 pp.
s18. S.D.—Feb. 1947—**Forests of South Dakota,** by J. A. Donery—4 pp.
s19. Utah—Sept. 1948—**Forests of Utah,** by John B. Woods—4 pp.
s20. Va.—Jan. 1947—**Virginia Forests . . . Cross Section of the East,** by Henry S. Kernan—4 pp.
s21. Wash.—Sept. 1947—**Washington Forests in Transition,** by Burt P. Kirkland—5 pp.
s22. Wyo.—Nov. 1945—**Water, Scenery and Crossties,** by J. C. H. Robertson—4 pp.

Other People's Problems

(*From page* 34)

firm beliefs in private enterprise as the only practical approach to private land forestry, the consultant generally finds a common ground for cooperation with the public foresters who are in a sense his tax-supported competitors. Many of the consultants now in business received their early experience on the federal or state payrolls.

The Association of Consulting Foresters, seeing the desirability of educating landowners to their opportunities in forestry has proposed that consultants work cooperatively with government and industry foresters in developing demonstrations on public and private lands—so long as the aim is *demonstration of opportunities* in private forestry, rather than providing of broad service programs by which individual landowners have their work done for them. Such a program would eliminate the undesirable feature of the present management programs—that of a public agency performing services of value for individual taxpayers, at the expense of all the others.

While nonoperating landowners provide many of the problems to which consultant's apply their knowledge and experience, there is an equally large field for activity with the timber-using industries. Here the consultant is employed to make timber surveys and economic studies to aid industry in locating plant sites with assured sources of raw material supply. Or, he may be called upon to cruise and estimate the value of a tract of timber which a client plans to purchase.

As in other professions, foresters tend to specialize. Although the average consultant is a general practitioner, most of them are strong in one or more lines of specialization.

The Society of American Foresters in its listing of consultant members recognizes 21 of the more common fields of specialization.

The number of consulting foresters has grown by leaps and bounds over the past decade. Where probably 50 or less were available ten to 15 years ago, it is now estimated that nearly 400 consulting foresters are operating as individuals or as members of consulting firms.

Actually the term "consulting forester" is a bit of a misnomer. Very few consultants are employed purely to "consult." The private forester is not hired only for what he *knows,* but for what he *knows* and *does.* Consequently, except on a few occasions when the consultant is called to help line-out a solution to a problem, or to advise other foresters or industry operators on their plans and programs, the consulting forester will be found actively engaged in the actual work of cruising, marking, surveying, and directing a going operation of tree planting, insect or disease control, or logging. Milton M. Bryan of the U. S. Forest Service, has suggested the term "private practicing foresters" as more nearly describing the actual consultant. But the term consulting forester has long been with us—ever since Gifford Pinchot in 1891 examined and made recommendations for the lands of Phelps, Dodge & Company in Pennsylvania. The term apparently is here to stay. And so is the consulting forester—so long as other persons have forestry problems.

CONSULTING FORESTERS

KEEDWELL & ELLIOTT

FORESTERS
EMPORIA, VA.

STUART G. KEEDWELL
FRANK A. ELLIOTT

KEITH CRANSTON, *Forestry Consultant*
Leland, Mississippi
(Headquarters)

Commercial Cruising Services
Woodland Managers • Timber Estimators
Forest Inventories • Growth Studies
Reconnaisance • Appraisals

GULF STATES
SOUTHERN PINES
Hardwood Bottomlands

PROVIDING A SOUTHWIDE PROFESSIONAL TIMBER SERVICE

TIMBERLAND MANAGEMENT, INVENTORY AND APPRAISAL
—OVER 50 MILLION ACRES SINCE 1910

JAMES W. SEWALL COMPANY
FOREST ENGINEERS
OLD TOWN, MAINE
BRANCH: JAMES W. SEWALL CO. (CANADA) LTD., FREDERICTON, NEW BRUNSWICK

Get some practical advice *before* you buy that farm or forest land.
WILLIAM H. MEYER
Consulting Forester
West Rupert, Vermont

PRENTISS & CARLISLE CO., INC.
Consulting Foresters
Estimates • Appraisals • Management
Members
GEORGE T. CARLISLE
PHILIP P. CLEMENT
ROBERT W. AVERILL
PAUL E. ATWOOD
GEORGE D. CARLISLE
PAUL PINEO
107 COURT STREET • BANGOR, MAINE

Timber Cruising — Selective Marking
Damage Appraisals — Woodland Mgt. & Sales
SANDHILL FORESTRY CO.
W. J. MARSHBURN, JR., CONSULTANT
PHONE 2054 — RT. 2, ROCKINGHAM, N. C.

HOWERTON SUPPLY CO.
Forestry Consultants
Timber Dealers
MADISON, FLORIDA

POND & MOYER CO., INC.
Consulting Foresters
107 Homestead Rd., Ithaca, N. Y.
Estimates—Appraisals—Trespass Cases
Machine Tree Planting Service
We have cruised over 2,200,000 acres from Maine to Central America; machine planted 3,000,000 trees in New York and Penna.

KIEFER AND QUAILE
Consulting Foresters
LAKEVILLE, CONN.

BEST USE OF LAND
is fundamental to the Nation's future.
PLAN ITS PROPER AGRICULTURAL, FORESTRY, AND RECREATIONAL DEVELOPMENT
Frank I. Rockwell — Consulting Forester
5536 Wentworth Ave. S. — Minneapolis

HENRY L. BANGO
Consulting Forester
Complete timber management service within 200 mile radius of Shreveport.
SHREVEPORT, LOUISIANA
P. O. Box 4072

K&E

FROM EVERY ANGLE

Traditional K&E care and precision go into the making of these useful forestry instruments . . . K&E Right Angle Instruments and The K&E Hand Level with a right angle feature.

These instruments are *rugged* . . . designed to stand up without the need of constant adjusting even under the rough usage of forest work.

THE RIGHT ANGLE PRISM

This compact instrument consists of a single ground triangular prism and it, therefore, cannot get out of adjustment. A plumb bob can be attached to the hook of the handle.

THE RIGHT ANGLE MIRROR

This instrument gives a slightly larger field of view and is adjustable. As an added feature, a small plumb bob is conveniently stowed in the handle.

THE DOUBLE RIGHT ANGLE PRISM

Consisting of two ground pentaprisms separated by a plano-parallel element, it can be *placed on a line between two points* and a third point at right angles can be sighted. A plumb bob can be attached or the instrument can be mounted on a staff.

THE HAND LEVEL WITH A RIGHT ANGLE FEATURE

Here is a dual-purpose instrument with all of K&E's famed precision. While its principal use is as a hand level, it offers the right angle feature as well. Note the flat base permitting use on a level board.

Ask any K&E Distributor or Branch for further information or write Keuffel & Esser Co., Hoboken, N. J.

KEUFFEL & ESSER CO.
EST. 1867
Drafting, Reproduction, Surveying Equipment and Materials, Slide Rules, Measuring Tapes.
New York • Hoboken, N. J.
Detroit • Chicago • St. Louis
San Francisco • Los Angeles • Montreal

Chipman Hill

(*From page* 39)

head, which I missed. What a house I have chosen to live in, — yellow aspen, yellow birch, and beech more deeply yellow, this golden house of foliage protected under the pines which rise high and evergreen above them. Sunlight coming through gave the effect on the ground of the golden network of rippling light you get on lake water. The pines are shedding their brown needles, which lie atop the wild sarsparilla plants. The New England aster up here grows rose color, not purple; bees on them. Striped maple has bright orange foliage, the goose-foot maple pure white or raspberry; oak leaves a strong and gleaming red. I gather a bouquet of the last, which rustles pleasantly as I descend the hill.

November 14—Walked on Chipman in a wind too cold and strong to make a longer hike desirable. The paths up the hill look oddly broad and distinct, like roads. You could almost swear the tree-trunks had moved back on either side—drawn away. Such a difference does foliage make. I notice the effect of smoke or gray mist that the number of bare trees with gray trunks produces,—white birch, beech and maple. I help myself sparingly to partridge berries, more generously to wintergreen. Still hear crickets.

I find a lot of hickory nuts, apparently sound, near the shagbark trunks, half concealed by dried leaves. Saw a robin hunched on a tree, and hear grackles. The earliest birds, like old friends of the family, are the first to arrive at the party and the last to go. Tender, green, softly curving leaves of Herb Robert in the wood, like little parasols. In the pasture on the way down one of the evening primroses rears its four yellow petals long past its bedtime, and a minute tan butterfly hovers over the withered flowering grass.

December 10—This morning at eight as I look toward Chipman Hill I see all the trees are lightly frosted. Manage at noon to climb up the ski jump. Colors of aspen trunk and sumach bobs gleam through ice. In the pine grove the snow screen, thicker than in the valley, covers practically all the ground plants. I guess at where shin leaf, partridge vine and Christmas fern are underneath, and, if I guess right, pull them out in triumph as their snowy

THE
URANIA LUMBER CO. LTD.
URANIA, LOUISIANA
★
TREE FARMERS
and Manufacturers of
YELLOW PINE AND HARDWOOD
HARDWOOD FLOORING
and
PRESSURE TREATED CREOSOTE MATERIAL

WE INVITE YOU TO BECOME A MEMBER
OF THE
AMERICAN FORESTRY ASSOCIATION

AMERICAN FORESTS IS SENT EACH MONTH TO MEMBERS

The American Forestry Association,
919 - 17th St., N.W., Washington 6, D.C.
I hereby apply for membership in The American Forestry Association and enclose $_____.

INDICATE CLASS DESIRED

☐ Subscribing Membership, per year ____ $5.
☐ Contributing Membership, per year ____ 10.
☐ Sustaining Membership, per year ____ 25.
☐ Life Membership (no other dues for life) ____ 100.
☐ Patron Membership (no other dues for life) ____ 1,000.

Canadian Postage 25c extra, Foreign 50c extra, on Subscribing Memberships.

Name _____
Street _____
City and State _____

NEW ALL-AMERICAN
PICNIC GRILL

It's *tops* in grills! Positive six-way draft control provides faster, easier fire kindling, saves fuel, guarantees tenderer, juicier charcoaled steaks, chops and barbecues. American's many plus-features assure perfect *lifetime* performance. Shipped fully assembled.

STATIONARY
Weight 160 lbs.
COMPLETE
$35.75

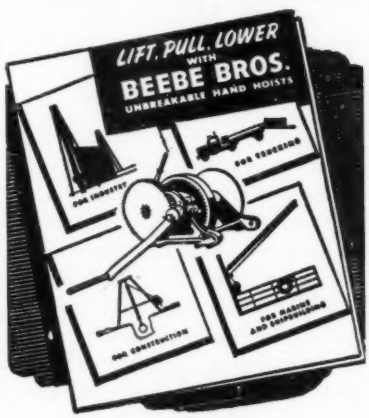
PORTABLE
Weight 185 lbs.
COMPLETE
$43.75

PATENTS PENDING

Order Your All-American Grill TODAY!

AMERICAN
PLAYGROUND DEVICE CO.
ANDERSON, INDIANA

FREE HAND HOIST DATA BOOK



SEND FOR IT TODAY

IN A DETAILED 4-page folder now available, Beebe Bros. tells the complete story about the 2-, 5-, and 15-ton unbreakable Beebe Hand Hoists. As the strongest geared power for their weight in the world, these trouble-free hoists serve a multitude of industrial uses.

The bulletin includes detailed specifications, costs, performance features, and installation data on a wide range of hand hoist requirements. Special power hoist data included, too. Send today for your free copy.

BEEBE BROS.
2728 6th Ave. So., Seattle 4, Wash.

coverlet brushes off. A flock of snow buntings goes almost directly over my head as I come down into the cleared space, showing their black and white pattern as they fly.

January 15 — Took a walk on Chipman in the afternoon, where the green of the pines, the blue of the snow and the silver of the light were a joy to behold. I broke off some pine branches, and seemed to be carrying a bouquet full of little silver points thereafter. There was only one sound up there in the woods, and that seemed halfway between the breaking of twigs and the tinkle of bells. It was made by the small hard pieces of ice as they fell off the trees and hit the ground.

February 28 — Hear crows as I start upward. A great deal of snow still on the hill. Follow a deer's track to somewhere past the tower, at which point only deep soft snow piled up, and I retraced my steps. The seeds of birch lay on the snow, and bright green boughs of pine. As I turned homeward the close-packed snow went crunching under my feet, the sunset light upon it red, like that of firelight. Johnny Dorr was heading upward as I came down, hauling behind him his sled laden with wood.

March 18—I fought my way up Chipman Hill step by step, boots plastered with mud, the wind roaring in my ears. Not a bird, not a leaf, only the wind, strangely impressive. There on the hill no squeaking doors or banging shutters disguise its identity, the voice of creation, hollow, cavernous, with a sound of anguish and of promise which appeals to the heroic in man. It was worth a longer climb to hear such a wind. I have never heard one like it before. The sumachs lay flat for several rods along the path.

April 6 — Up Chipman Hill, in the teeth of the wind. A very agreeable time to walk in the woods, the dried leaves being flattened down from snow pressure into a carpet. A mourning cloak butterfly was coasting about among the tree-trunks, and at the edge of the wood a reddish brown butterfly with wings angled like oak leaves. I entered the forest and found, deep within, hepaticas blossoming amid the driest of dead leaves, blue-violet flowers shading into white, and buds of bright rose color. One of the spring beauties had come up literally through a dried leaf, having used its top leaves and stem as a battering ram, and looking a bit wilted in consequence. Saw the first woodchuck, — rightly named, this chuck, — running

The New GA-8 PACIFIC PUMPER

Now in regular service and field tested and approved, the new "GA-8" is showing itself to be another top performer in the famous PACIFIC PUMPER line.

With or without electric starter* the light-weight "GA-8" is especially adapted to tanker use . . . as a portable unit the special sled-type mounting means easy handling in rough terrain. Light enough to be readily carried, the air-cooled, 4-cycle engine develops top volume and pressure for its weight.

The engine and pump are standard Pacific Units and have been fully tested and approved.

*Optional equipment.

DIMENSIONS

Length	28¾ inches
Width	19¼ inches
Height	24¼ inches

NET WEIGHT

GA-8 (without starter)	115 lbs.
GA-8-S (with starter)	140 lbs.

PERFORMANCE

Pressure	G.P.M.
50	26
100	24
150	22
200	21
250	20
300	16

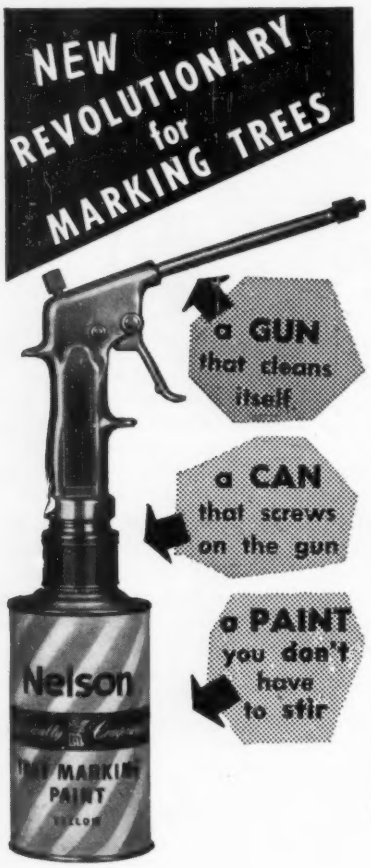
Normal operation is 20 G.P.M. at 250 lb. pressure.

PACIFIC "Pacolized Hose"

is a made-to-order partner for all portable or emergency water supply equipment. "Pacolized" Hose is permanently mildew-proof and rot-resistant. Made from "line" flax fibers it is the most flexible hose of its type, lightweight and easy to carry.

Specify "PACIFIC" Pumpers, Hose and accessories. Write for information on the new "GA-8" and the full line of PACIFIC fire equipment, pertected for portability and high performance.

PACIFIC Marine Supply Co.
SEATTLE 1, WASHINGTON


NEW REVOLUTIONARY for MARKING TREES
a GUN that cleans itself
a CAN that screws on the gun
a PAINT you don't have to stir
Nelson
PAINT

SAVE Hours of Mixing!

Nelson's new Tree Marking Paint does not settle, thicken, skin over—ends tedious stirring, thinning, straining. Durable, not absorbed into wood, highly visible, it's the ideal marking paint foresters have sought for years.

END messy waste motion!

Nelson's disposable quart-size paint can screws direct to the new NEL-SPOT marking gun. Just throw away empties (and eliminate sloppy funnels, canteens, gun cans, too).

AVOID constant gun cleaning!

The new NEL-SPOT Tree Marking Gun has a reversible tip to blow out dirt, a nozzle cap to prevent paint drying-in, a cleaning wire set in the cap to keep the orifice open—everything to prevent clogging, keep moving and end the "every night" cleaning chore.

For details on this revolutionary new 3-in-1 time-mess-and-money-saver—

WRITE: Dept. AF-6

THE NELSON COMPANY
1236 Prospect Avenue
Iron Mountain, Michigan

through the wood. From my cold rocky perch I heard both bluebirds and song sparrows. These birds,—unlike the robin's which is a summer song,—are meant for spring, their melodies to blend with the soft tinkle of ice melting in streams.

May 25—To Chipman Hill at noon. Cold, with floods of sunshine. The hum of bees sounds enchantingly low down on the forest floor, low down to be with the flowers. Canada lily and wild sarsparilla form the carpet, with pipsissiwa pattern running through. They have good wearing quality. Found a hollow of trillium,—solid white with it. Quite an eventful trip, all told. Saw on the way up some white-crowned sparrows, with striped black and white jockey caps, and a most melodious song. I stood nearly under a bluejay, who sweetly whistled a tune, followed almost immediately by his customary squawk. All trees leafing now, including the birch. A black swallowtail is coasting about. Fair indeed are the white trillium growing so calmly and decorously in full noonlight.

Though I can hardly believe it at this daylight hour I hear the hermit thrush deep within the wood. As I came down I passed a solid red dazzling bank of columbine at the east base of the hill, and as I gained the main road, saw a blackbird in angry pursuit of a meadowlark. The blackbird hissed as it chased its enemy,—a sound I never before heard it make.

June 11, Evening—Walked on Chipman Hill, the woods in continual gentle commotion, rain threatening. Found and ate some wild strawberries. The white-velvet blossoms of partridge vine carpet the ground. A partridge came straight toward me, putting on her act of her bogus broken wing while the chicks made off into the undergrowth. The movement of branches in the wood seemed to increase, the drops began to fall, and I heard a creature swishing through the bushes the other side of the path. Running there quickly I saw something larger than a woodchuck, more tawny, with a glorious thick tail which no woodchuck could boast. A fox. My word of reassurance to him spoken aloud had the opposite effect, for instead of crouching longer he made through the underbrush like a streak, and away. I heard the baying of a dog sometime later, but it did not continue, and I believe the fox made a clear get-away. With the whole hill in agitation it seemed to be wafting him away.

COLUMBIA-HUDSON LUMBER COMPANY

BRADWOOD, OREGON

✦

Manufacturer

DOUGLAS FIR

AND

HEMLOCK

(LIGNASAN TREATED)

LUMBER

Bequests to THE AMERICAN FORESTRY ASSOCIATION

There are many members and friends of the Association who find it impractical to contribute to its educational activities during their lifetime. Gifts in the form of a bequest are welcomed. Officers of the Association will gladly consult at any time with those who wish to know more about designating gifts for educational work in forest conservation.

Following is a paragraph suitable for incorporation in wills:

"I hereby give, devise and bequeath _____ to The American Forestry Association, Washington, D. C., a non-profit District of Columbia corporation, or its successor, or successors, for the purpose of promoting the corporate activities of said Association."

July 22—"I'd like to get some black-eyed Susans from that mountain meadow," Mrs. Peterson had said last week. It seemed unlikely she would arrive, so I clambered up this noon to Chipman's cleared space, the landscape sizzling and shining about me. I almost lost the road by reason of the expanded foliage that presses in on either side, getting well tangled up with high white melilot and bees. Here and there on the way upward I stopped to pop raspberries and blackcaps into my mouth, warm and juicy as if they had come from an oven. There is not a visible drop of water on the hill, yet the depth of the woods is cool and moist, with maidenhair and other ferns growing green therein.

Those tiny blue butterflies that fly blue and fold up gray are coasting about. Before I enter the wood I hear a veery; deep within the wood two thrushes singing, answering each other, as it seemed. In the upper pasture where you emerge for the clear view blossom sun-bright flowers, — yellow hawkweed, St. Johnswort, black-eyed Susan, with the purple-blue vetch so plentiful it forms a springy mattressy growth above field level. The sun gets in my eyes as I pick the yellow daisies, and the sound of the cicada makes the heat seem hotter.

August 12—Up the hill at sunset. Pass a dead pine with the signature of the pileated woodpecker thereon like the track of snowshoes and farther along the pileated himself, using his red head for a hammer on a living pine, alas. If Thoreau ever saw this largest of the woodpeckers he has not, to my knowledge, recorded it. Already the wood brakes have found their autumn, and dogbane foliage, too looks yellow and sere. On the lower slope a hawk comes flying so low between the trees he gives a masterpiece of navigation. Looking for young partridges, I suppose.

The slanting sunlight picks out here and there a spray of *Actaea rubra* with its red berries brilliant as jewels. I gather a few clusters. On the stem just below the surface of the ground are bright purple buds. I open one, and find inside it in the center a perfect miniature of the white blossom that will be coming forth in May. Could anything be jollier than to open a bright purple bud at ground level and find the spring all planned for?

The Hoffco 2 h.p. PAT. PEND. POWER UNIT AND ATTACHMENTS

THE ANSWER TO EVERY GROWTH-CLEARING PROBLEM!

Write for illustrated literature

New 2 h.p. HOFFCO POWER UNIT, using SAWETTE, TRIMETTE, and SCYTHETTE attachments, clears weeds, brush, trees! You stand safely upright, cover ground 400% faster with HOFFCO. Light-weight—powered for heavy-duty jobs—small or large. Take the labor out of clearing—use the HOFFCO POWER UNIT—with SCYTHETTE, SAWETTE, and TRIMETTE!

POWER UNIT PRICE . . . $123.00 F.O.B. FACTORY

Sawette

HOFFCO's SAWETTE works easily on smallest brush—or trees up to 8 inches and over in diameter. America's outstanding chain-saw.
CUTTING HEAD PRICE, $64.50

Trimette

Use TRIMETTE to trim near walks, stones, drives! 7-inch blade creates suction, distributes mulch evenly Save work—with TRIMETTE!
PRICE TO BE ANNOUNCED

Scythette

SCYTHETTE clears weeds anywhere—even under water! Snips off saplings up to ¾-inch in diameter. No job too big or difficult for SCYTHETTE!
Cutting Head Price, $39.75

Hoffco.inc. ALL PRICES F.O.B. FACTORY RICHMOND, INDIANA

EVERGREENS
FOR
FOREST PLANTING OR ORNAMENTALS

For 89 years we have been growers and propagators of evergreen seedlings and transplants, and are in a position to supply you with quality planting stock in small or large amounts, at reasonable prices. Write for complete trade list.

EVERGREEN NURSERY CO.
Established 1864 Sturgeon Bay, Wisconsin

Longfibre KRAFT

WE ARE HELPING NATURE TO
GROW TREES
ON FIVE EXTENSIVE
CERTIFIED INDUSTRIAL FORESTS
Known as

LONGFIBRE TREE FARMS

Owned and Managed
by

LONGVIEW FIBRE COMPANY
LONGVIEW, WASHINGTON

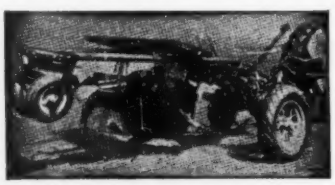
Birthplace of newer and finer Mosinee industrial papers

Here's one of the flourishing Mosinee Forests. From it, will come the quality kraft fibres for Mosinee special purpose papers used in products, processing and packaging by many industries. The forest itself not only typifies the entire Mosinee conservation and reforestation programs, but it also helps assure development of still finer industrial papers in the future.

MOSINEE PAPER MILLS COMPANY
MOSINEE, WISCONSIN

MOSINEE
makes fibres
work for Industry

REFORESTATOR
Mechanical Tree Planter



Manufactured by
L. W. MERIAM CO.
Elsie, Michigan

Living Links With Washington

(*From page* 17)

Cheat River, in what is now West Virginia, in 1784.

"This particular buckeye is unusual also because its flowers are pink, instead of yellow," Mr. Fisher added. "We don't know why this is so, but when we catch up with other work some day, we shall look into it."

Here, too, near the garden gate, soars another original ash, and the oldest of the estate's hemlocks (*Tsuga canadensis,* Carr.), dating from 1785. Washington realized the usefulness of this valuable evergreen, and made valiant attempts to increase his stock of them. But the hemlock proved a hard-luck tree at Mount Vernon, an easy prey to storms, lightning and summer heat.

Directly across the Bowling Green, near the kitchen garden gate, stand the other surviving veterans of the Washington brigade—two big Kentucky coffee bean trees (*Gymnocladus dioeca,* K. Koch) and a pair of beautifully-shaped weeping boxwoods (*Buxus sempervirens arborescens,* L.). Seeds of the coffee bean were also collected by Washington during his Cheat River trip and planted at Mount Vernon in April 1785. Twelve cuttings of weeping boxwood were received from Colonel Lee, of Westmoreland's "Stratford," and were planted the same year.

As for the very showy, tall pecan trees that tower from the lawn on each side of the Mansion, it has been finally decided, all reports and legends to the contrary, they could not be contemporaneous with Washington. Some early photographs, recently discovered, do not show them at all. Very disillusioning, because they look like the oldest things on the place.

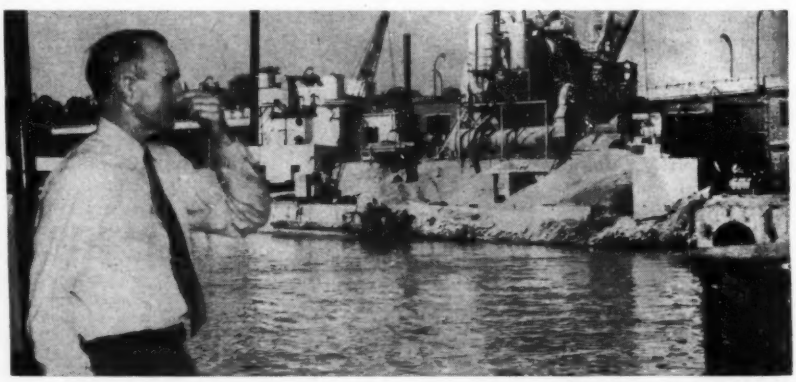
The north and the south groves beyond them, down to the Ha Ha walls (brick embankments to keep cattle from coming up onto the east lawn), have been in an active state of restoration for several years.

In the south grove Washington originally planted what he called "clever kind of trees" — dogwood, sassafras, weeping and yellow willow, crabapple, laurel (his term for magnolia), silverbell, etc. In the north grove he set out a tree he considered "clever" only en masse—the locust. Washington's use of "clever" here meant: "excites curiosity, or interest," obviously a solecism, but a pleasant one. Like many another host today, Washington probably used the groves as after-dinner conversation pieces, pointing out the seasonal variations or oddities of each tree.

What is being done to preserve the tree veterans of Washington's time?

"Everything that modern science and tree surgery can devise, with a few ideas of our own," Mr. Fisher assured me.

Because the Mansion House grounds stand on an exposed headland, well above the river and surrounding fields, lightning is a constant threat during the spring and summer months. Improved lightning rods have been installed in the tops



Washington Daily News Photo.

Civilization has changed things along the Potomac since Washington's day. The gentleman making a well-known gesture describing his opinion of one change is Sen. Wayne Morse, Independent of Oregon. Sen. Morse recently toured the Potomac to study pollution problems at first hand

of the tallest trees, and heavy conducting cables strung to the ground. It was found necessary to make the cables as straight as possible, and to remove them a little bit from the trunk. Any sharp bend or kink in the cable sets up a spark jump, which gouges out sections of trunk or may split it from top to bottom.

Lightning wounds and openings resulting from interior decay are promptly treated with a filling of Portland cement. Expansion joints of asphaltic material prevent cracking after the cement is dry. Then the exterior of the whole patch is treated with a coat of black asphaltic emulsion that seals the cracks around the area of the wound against insects, fungus, and water seepage. I saw areas so treated where new bark had already begun to fold over and close the opening.

At regular intervals, whose timing matches notations in Washington's diaries (between 1760 and 1788 nearly 10,000 words are devoted to references to trees, shrubs and flowers), the trees of Mount Vernon are carefully trimmed or pruned to remove dead branches or prevent overcrowding. In the Mansion House area alone there are some 350 trees, of 30 species, and they seemed in such good health that I asked if they were fed any special diet, or chemical tree food.

"Nothing at all," Mr. Fisher assured me, "except the fertilizers we spread on the lawn or nearby gardens. Some of this undoubtedly seeps through the soil and benefits the trees, too."

One of the most striking trees on the Mansion House grounds hangs on the edge of the steep slope running down to the Potomac, near the Summer House. A Mount Atlas cedar, often mistaken for a Cedar of Lebanon, it is also somewhat of a mystery tree. As far as the record shows, Washington never planted any such tree, and this one could not be more than 60 years old. Who put it there is unknown, but it has become a great favorite with staff and visitors alike, so some effort has been expended in preserving it.

Because its bark is extraordinarily rough, with many crevices and fissures, insects soon took up abodes there. Most of the insects did no harm, but the yellow-bellied sapsuckers who came to feast on them riddled the bark with their powerful beaks. Sap oozed from hundreds of holes, and the tree threatened to bleed to death.

What to do? Mount Vernon's staff are bird lovers as well as tree

Through planned management of our timberlands, North and South, we are assisting in the achievement of the goals of the American Forestry Association.

HOLLINGSWORTH & WHITNEY COMPANY

Executive Offices:
60 BATTERYMARCH STREET, BOSTON, MASSACHUSETTS

Divisional Sales Offices:
230 PARK AVENUE, NEW YORK, N. Y.—111 WEST WASHINGTON STREET, CHICAGO, ILLINOIS

IT'S PORTLAND, OREGON IN 1954!

Make Your Plans to Attend the 1954 Annual Meeting of The American Forestry Association

MULTNOMAH HOTEL
PORTLAND, OREGON **SEPTEMBER 6-9, 1954**

CONSERVATION THROUGH USE

The greatest conservation program for our timber resources is without point unless we use the timber for products.

Columbia manufactures plywood of fine quality for many building and industrial uses.

With latest forestry practices, logging methods and manufacturing processes, we are making the ultimate use of every tree cut.

Continuance of good forestry practices and full utilization of mature trees is needed to insure the wood industries of continually expanding markets. There is no worthy substitute for wood.

COLUMBIA VENEER COMPANY
SKINNER BLDG. **SEATTLE, WASH.**

MACHINE TREE PLANTING?

Write for Complete Information and Literature Describing the FORESTER and the CONSERVATOR Tree Planting Machines

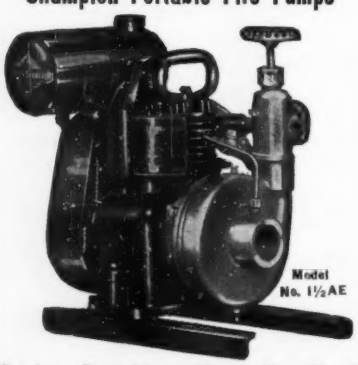
TREE GIRDLING?

Write for Complete Information and Literature Describing the

"HANDI-GIRDLER"

UTILITY
TOOL & BODY CO.
MARION, WISCONSIN

Champion Portable Fire Pumps



Darley Portables Must Be Good! State of Minn. Forestry Dept. Has 45 Champions in Service!

Darley Champion Portable Fire Pumps were selected over other makes by the State of Minnesota for hard service in the State Forestry Department.

Darley Engineering Brings You More Water and Higher Pressures with Champion Lightweight Portables

Capacity up to 250 gallons per minute. Pressures up to 125 lbs.

Write for 108 page catalog of Fire Equipment. Also 44 page booklet of Fire Pumps and Fire Trucks.

W. S. DARLEY & CO., CHICAGO 12
Manufacturers of Champion Fire Pumps and Champion Fire Apparatus

conservationists. They couldn't hear of anything drastic being done to the sapsucker, marauder he may be. Mr. Fisher said he finally hit upon a solution that satisfied all — except possibly the sapsucker. A special mixture of DDT and arsenate of lead, applied to the bark with a paintbrush, killed the insects. With the insects gone, the sapsuckers went elsewhere.

The horticultural staff at Mount Vernon, Mr. Fisher pointed out, is interested not only in preserving the trees that are associated with Washington's lifetime, but in restoring the original Washington planting program. Much progress has been made, but much remains to be done.

Mount Vernon's overall tree-restoration plan dates from 1924, when Charles Sprague Sargent, director of the Arnold Arboretum, Boston, and one of the nation's leading tree authorities, was asked to draw up a landscape restoration plan for Mount Vernon.

First, he made a thorough study of Washington's diaries and garden account books. These, with the gardener's reports, are still the most authentic sources of information about Mount Vernon's early horticulture, although the staff now and then receives a copy of an old letter or a manuscript that gives additional clues about Washington's plantings or fills gaps in the plantation reports.

Sargent recommended a little judicious felling or transplanting of certain trees that seemed obviously out of place. Given a more or less free hand, he exiled, among others, memorial trees to Bishop Lawrence of Massachusetts, the late J. P. Morgan, of New York, and the Emperor of Japan. To avoid ruffling any diplomatic feelings, the tree in honor of the latter was quietly transplanted to the border of the estate.

Not all the trees mentioned by Washington in his writings will be replaced under the restoration program. Experimentation has already proved that certain species will not grow in the Mount Vernon climate.

Whenever an original Washington tree dies or is blown down today every effort is made to replace it with a young tree grown from the seeds or cuttings of the original tree. Thus, it might be said, is established and perpetuated a genuine Washington family tree, a process that will have greater meaning when all the original Washington-planted trees have finally bowed to the ravages of time or have gone with the wind.

TREES FOR SALE

American Arborvitae, Balsam Fir, Red Pine, White Pine, Scotch Pine, Norway Spruce, White Spruce, etc. Prices reasonable and trees are GUARANTEED TO LIVE.
WESTERN MAINE FOREST NURSERY COMPANY
Dept. F. Fryeburg, Maine

SEEDS
TREE - - SHRUB
E. C. MORAN
Stanford, Montana

TREES FOR FOREST PLANTING
PINE•SPRUCE
Firs, Arborvitaes and Other Conifers. We raise all our trees in our own nurseries.
KEENE FORESTRY ASSOCIATES
KEENE, NEW HAMPSHIRE

GROW TREES
FOR XMAS TREES & FORESTRY
Fir, Pine and Spruce in variety
Seedlings and Transplants.
Write for Price List.
SUNCREST
EVERGREEN NURSERIES
P. O. Box 594, Johnstown, Pa.

EUROPEAN TREE SEEDS
Specialties: seeds for Xmas Trees and Forestry
Write for Price List
JULIUS STAINER
Kilnhouses:
Wiener — Neustadt
Austria

LOOKING FOR SOIL CONSERVER PLANTS?
For holding embankments—highway and railroad cuts and fills—steep hillsides?
We suggest the SYMPHORICARPOS Family:—
Albus (Racemosus)—Upright Snowberry
Mollis—Spreading Snowberry
Vulgaris—Coralberry
*Chenaulti—Improved Coralberry
*Good foliage, useful in foundation plantings. All available in quantity 12-18", 18-24" and 2-3'.
CHASE NURSERY COMPANY
Box E CHASE, ALABAMA

GROW XMAS OR FOREST TREES
Write for Christmas Tree Grower's Guide—by America's Largest growers. Box 27-K
MUSSER FORESTS, INC., INDIANA, PA.

A Home Is For Living

(*From page 43*)

For a week or more one summer, a little owl came at night to the red oak outside the window of my upstairs darkened room and, three feet from my hand, would sit motionless, silent, lantern-eyed, and inscrutable, to ruminate upon life. The merest sound, the faintest passing shadow, and he would float away.

Pheasants found a welcome with us, and good pickings. Mother Pheasant and her brood would come up from the creek bottom several times a day. They would meander about over terrace and lawn, calmly assured that they belonged to the landscape. One morning, the agitation of ground-sweeping spruce branches led to the finding of a gorgeous ring-neck caught by a foot in a steel trap, set, no doubt, by someone after rabbits. The bird may have struggled for hours. When released, it dropped in my hand, and died. In a rainstorm, a mourning dove refused to leave its nest in a roof gutter until nest and contents were washed into a downspot.

A muskrat, when spring brought high water to the creek, favored us with his presence but refused to become acquainted. He was alone, seemingly a bachelor muskrat and a hermit. A racoon's wavering cry was a common sound in the valley, and once a little red fox passed our way with a rope around its neck, the broken end trailing.

The house we gave up is a small, colonial cottage, shingle-sided. Downstairs, it has living room, kitchen and hall. Both rooms open into a screened open porch of generous size, an "eatin' " porch facing north, east and south and looking out upon the valley. Upstairs, there are three bedrooms and bath. There is no dining room, as such. For eating there was the living room, or the porch, which came close to being the main room in the house.

Approached from the street at the north, the house does not face the street. Instead, it turns its back and faces south, overlooking the Minnehaha Creek valley, in Minneapolis. The living room looks down on the valley, its south windows reaching to the baseboard. The room, the whole house, was designed for sunlight.

Partly hillside, the lot slopes somewhat steeply to the creek, with natural growths of sumac, honeysuckle, hazel and woodbine, of pincherry, chokecherry, nammy plum and bittersweet, mounting virtually up to the house. There are oaks, elms and ashes, too, and even jack-in-the-pulpits in season for those who will look for them.

Friends sending us postcards of the Bay of Naples, or Yosemite Park, were invited some time to see from our windows a snow storm in our valley, or a full moon in a clear sky moving serenely over our creek, its mysterious face revealing nothing of man's preoccupation with plans for a lunar visit.

People who came to see our place, ostensibly with a view to buying, reacted in various, often surprising, ways to what we regarded as its assets. One male looked glumly from the living room on the unconventional mass of native shrubbery. His face did not even light up.

"This could all be cut away, couldn't it?" he asked. It could; it certainly could. Any man with an ax, a sickle and a strong back could do it. "I'd cut it off and seed the whole thing," he added.

We had lived in fear that the shrubbery would die away in time—wild growths are temperamental, you know—and leave the slope bare, forcing us to sod it and gaze thereafter on monotonous greensward.

He did not make an offer. Although refraining from saying so, lest he hurt our feelings, it was plain he could not understand how any one in his right mind would plan and build a house, and, when beyond remedy, discover he had forgotten the dining room!

For Best Christmas Decorations
Putney's #2 WREATH

A very attractive 15-inch wreath woven of fragrant long-lasting Balsam tips decorated with native cones and natural bright red berries. Red ribbon bow. This is our favorite wreath.

Only $2.90 each

Free illustrated catalog of other Yuletide decorations.

PUTNEY NURSERY, INC.
179G • Putney, Vermont

CHINESE CHESTNUTS: Beautiful, exotic, profitable.

Select specimens for lawns, drives, estates or orchards. You're not a conservationist if you don't have our complete nut tree catalog and literature on file.

NUT TREE NURSERIES
Box "M" DOWNINGTOWN, PA.

Permanent Christmas Decorations and Memorials

Christmas Wreaths, 18" over-all, each $2.25; 6—$12.00. Door charms, 18", each $2.25. Fireplace Top Charm, 40", each $3.25. Cemetery Wreaths, 18" over-all, each $2.25. Hearts, 18" over-all, each $3.25. Stars, 18" over-all, each $3.25. Crosses, 24", each $3.25. Sprays, 12" by 30", each $2.25. Midget Grave Blankets, 20" by 40", each $4.25. Grave blankets, 30" by 80", each $7.50. These products are treated, lacquered; will stand outside or inside atmosphere; the most gorgeous products ever made; all prepaid.

Brule Valley Nurseries & Evergreen Crafts, Brule, Wisconsin

TREE SEEDS OF THE SOUTH
Collected By A Graduate Forester
SOUTHERN SEED CO.
"Tree Seedsmen of the South"
Specializing in the Pines
ERNEST HINSON, Pres.
BALDWIN - GEORGIA

MUSSER TREES are GROWING IN ALL 48 STATES!

20 Million TREES a year!

Each year MUSSER teams plant over 20 million more trees, which will soon become:

Seedlings for Forest and Christmas Tree plantings
Transplants for Conservationists, Timber Operators and Farmers.

MUSSER Customers KNOW their trees have the RIGHT START. We offer world's largest tree selection of Quality plus Volume. You profit from economies of our huge volume. Note our low quantity prices at right:

SPECIAL SCOTCH PINE
2-yr. seedlings 4-8"
$35. per 1000
NORWAY SPRUCE (MUSSER Special)
2-yr. seedlings 5-10"
$35. per 1000
WHITE PINE
2-yr. seedlings 2-6"
$20. per 1000
DOUGLAS FIR
3-yr. seedlings 6-12"
$45. per 1000

Also shade and hardwood seedlings. Write today for Christmas Tree Growers' Guide and complete wholesale stock list; or tell us your requirements.

MUSSER FORESTS, INC. Box 27-K INDIANA, PA.

NO. OST

COUNCIL PLANTING BAR

BLADE
10" long 3" wide
OVERALL LENGTH
36" to 40"

MOST EFFECTIVE FOR SPOT PLANTING IN OPEN STANDS

Write for full information on COUNCIL FORESTRY TOOLS for Planting and Fire Suppression

THE COUNCIL TOOL CO.
Fine Edge Tools Since 1886
WANANISH, NORTH CAROLINA

THE LOWTHER TREE PLANTER PLANTS 10,000 SEEDLINGS PER DAY!

With the Lowther Tree Planter, trees are properly planted for maximum survival in any soil because they have been given the right start.
Three distinct models available to cover all soil conditions and terrain.

●

For details write:

THE HARRY A. LOWTHER COMPANY
INDUSTRY AVE., JOLIET, ILL.
By The Makers Of The Famous Lowther C-Saw

This HALE HPZZ *CENTRIFUGAL* Packs a Punch!

The Hale HPZZ Portable *Centrifugal* fire pumping unit shown above at extreme left is pumping 35 G.P.M. at 150 lbs. pump pressure through a 1½" line. The unit will perform from draft, with ample reserve capacity, as follows:

15 U.S.G.P.M. at 200 lbs.
35 U.S.G.P.M. at 150 lbs.
50 U.S.G.P.M. at 100 lbs.

Like the FZZ, it's companion "Forester's Workhorse" (in action below) the HPZZ is easily portable by two men. This *Centrifugal* HPZZ will supply an effective fire stream to fires as far as a mile from the pump—thru 1½" hose and 5/16" nozzle.

Write today for full information on the HPZZ and FZZ Centrifugal Units.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Picture at right shows effective fire stream from an FZZ carried in the truck and pumping from booster tank. The unit is used for fighting brush, field and forest fires while truck is in motion. An FZZ pumps from draft 60 GPM at 90 lbs. up to 150 at 30 lbs.

He was not alone in thinking we were a little queer. There was the woman who told us at the start that she and her husband had lived for 15 years in an apartment; liked it, too. One gathered it was he, not she, who hankered for a single dwelling. She stood at one of the south windows in the living room. Hillside and valley spread out before her. Water in the creek swirled and eddied around bends, caught the sun in its ripples, sped away on its six-mile journey to the Falls, which, in wet seasons, still "flash and gleam among the oak trees, laugh and leap into the valley," as with Hiawatha.

"This," she said with finality, expressive hands pushing away what we held so dear, "would drive me wild."

It was a woman of opposite tastes who bought the house. On her first call, she looked the place over without commitment. However, when told that an architect had designed the house, she commented, "I'd have known that on sight. I have an eye for line. I'd never build a house without an architect."

She bought after her second call. She had lost her husband not long before. Her only child had grown up and was on his own. She meant to live in the house all by herself. She loved privacy. But she liked company, too; the extra bedrooms were for guests—grandchildren especially.

The day we gave possession she came in the afternoon to match some chintz with the blue tile of the fireplace. The house was stripped. The van had gone. She stood at one of the long windows looking out on the foliage-blanketed hillside, on the tireless water flowing to the Mississippi, to the Gulf, to the Atlantic. After a silence, she said gently:

"Dad — would — have — loved — this."

Right then we knew all about Dad.

You will recall that Horatius, before his famous leap into the Tiber, looked not at the hosts of Tuscany but "saw on Palatinus the white porch of his home." One can believe that it did not occur to him that his house had no nook, that it had too much or too little shrubbery, that it faced away from the street. It was home.

As likely as not he was thinking, "Boy, wouldn't I like to live there!"

(Reprinted courtesy of *Nature Magazine*.)

Timber Harvesting on a Refuge

(*From page* 19)

there is some difference in the thinning process. The prime goal of the Forest Service is marketable timber, while the main purpose of the Fish and Wildlife Service is to improve wildlife habitat. However, the end results of the two methods is pretty much the same—a fine stand of mature, marketable trees. Certain den and food trees may be cut by the Forest Service which would be left by the Fish and Wildlife Service for fur-bearing animals, and certain trees may be cut by the Fish and Wildlife Service to make room for shrub growth that would be allowed to mature by the Forest Service. This does not mean to imply that the Forest Service is unaware of wildlife values and does not give due regard to them. It is just that the two organizations regard a stand of trees with different objectives. Both achieve desirable results, in a combination of improved wildlife habitat and increased timber yield.

Once the program got underway at Piedmont in 1939, a trained forester took over disease and insect control and an adequate fire prevention system was organized. In five years the stands had grown so much in some places that the Fish and Wildlife Service began to think of selective cutting, and in 1944 the first sale was made. It was a small cut—a few trees on only two and a half acres were cut—but it was an auspicious start. The long-range timber-management program was beginning to pay off.

The next year things began to boom in the timber business on Piedmont Refuge, by comparison to 1944. The cut jumped to around a million board feet with several thousand cords of pulpwood added.

From then on, the Piedmont Refuge was really in the timber business in a manner profitable to everyone concerned. It got better as the tree output increased and prices went up. Tree cuts were made on short rotation with relatively small amounts of timber being marketed at one time. This program proved most workable for it avoided a heavy load of timber being made available over a comparatively brief time which would tend to unbalance local economy. As it turned out, a steady supply of trees resulted in a steady market with a stabilized local economy, a situation enjoyed and appreciated by Jasper and Jones county timber interests.

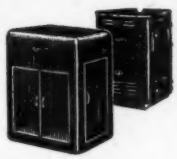
Furthermore, short rotation cutting was found to be beneficial to wildlife as well, for it supplied a constant supply of small open areas necessary for most efficient reproduction of upland game birds and animals.

In a surprisingly short number of years, trees were cut for sawtimber as well as pulp, and mills that hadn't seen a good-sized log in decades were beginning to hum as 14-inch and better pine boles emerged as finished lumber. Mills and yards in north central Georgia commenced to get a new lease on life.

SAVE! BURN WOOD

RITEWAY
HEATERS—FURNACES
BOILERS

Enthusiastic owners report RITEWAY's exclusive complete combustion principle saves up to half the fuel. Large fuel magazine and thermostat hold even temperature for 24 hours.



Thoroughly tested and approved. Burns any kind of wood — or coal.
Check below for further information:
☐ HEATERS ☐ BOILERS
☐ FURNACES
RITEWAY MFG. CO.
P.O. Box 6 B Harrisonburg, Va.

SILVA COMPASS
Simpler — More Accurate
Recommended by foresters for cruising. Easier to use, faster, positive. Direct course readings. *Write for free literature and instructions.*
SILVA, INC., Dept. A. LaPorte, Ind.

SAVE$ BUY DIRECT FROM IMPORTER SAVE$

WORLD'S GREATEST VALUES in PRISM BINOCULARS!
Specially Offered to "American Forests" Readers

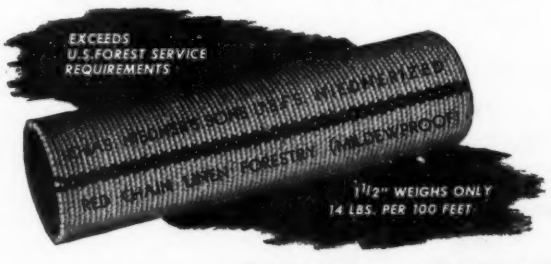
These fine quality imported prismatic binoculars are brand new, not seconds or war surplus and are the best values ever offered. Color corrected lenses • Wide angle fields • Quick and accurate individual focus • Anti-reflection costed optics at no extra cost • Genuine leather case included. Now is your chance to make the buy of a lifetime!

MONEY BACK GUARANTEE
You try them and if you are not convinced that these are the best values ever offered, simply return them within 30 days for refund.

NEVER BEFORE SUCH LOW PRICES!
ALL BINOCULARS ARE COATED
For Sports, Hunting.....6x30—$28.50
Long Range Viewing.....8x30— 30.75
Excellent for All Uses...7x35— 34.50
Boating, Day or Nite Use..7x50— 35.95
Super High Power For Mountain Viewing
10x50—$44.50 16x50—$49.50
OFFER IS LIMITED—Order Today!

All Glasses Postpaid. Penna. Orders add 1% State Sales Tax
COLADONATO BROS., Dept. BP36-A, Hazleton, Pa.

It Won't Mildew!



RED CHAIN
PURE LINEN
FORESTRY HOSE

Red Chain Pure Linen Forestry Hose is *the* lightweight hose to meet severe forest service requirements. Mildew-proofed by our exclusive Niednerizing process for more efficient, longer life. Strong, lightweight, flexible, compact. **Sizes 1, 1½ inch, lengths 50, 100 feet.** Look for the distinctive Red Chain stripe. Send your order to nearest address below for immediate delivery.

Ask also about Rendein Pure Linen Fire Hose for indoor protection.

CHAS. NIEDNER'S SONS COMPANY
MALDEN 48, MASS.

Stocked For Immediate Delivery By . . .

WESTERN FIRE EQUIPMENT CO.
69 Main Street, San Francisco 5, Cal.
Tel.: Sutter 1-0618

RALSTON R. CUNNINGHAM CO., INC.
71 Columbia Street, Seattle 4, Wash.
Tel.: Main 2341

PANAMA

Because of your enthusiastic approval of our

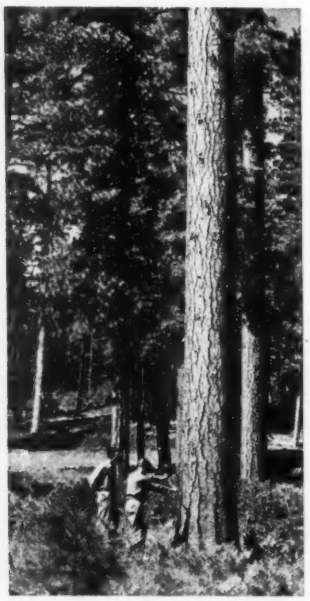
PANAMA Pressure Type Tree Marking Gun
PANAMA Pyramid Backfire Torch
PANAMA Flame Gun

Our volume is way up and our costs are down.
We are glad to announce some help for your budget
A REDUCTION IN PRICES
On these three items

PANAMA PUMP COMPANY
HATTIESBURG, MISSISSIPPI

When Writing Our Advertisers Please Mention AMERICAN FORESTS

We salute the splendid group of companies, associations, and individuals represented in these advertising columns. When you are in need of their products or services be sure to mention AMERICAN FORESTS MAGAZINE.



Since
1895

Manufacturers of Highest Quality Forest Products from

IDAHO WHITE PINE
PONDEROSA PINE
DOUGLAS FIR
LARCH • ENGELMANN SPRUCE

J N J. Neils Lumber Co.

MILLS: Libby, Montana, and Klickitat, Washington. SALES OFFICES: New York, Chicago, Minneapolis.

For six years the timber output steadily mounted on Piedmont until in 1951 the respectable total of 1,995,000 board feet of loblolly and short leaf pine were sold to five different local lumber concerns. During that year, trees were cut on 793 acres and the total monetary return was $57,975.44.

Last year saw a further substantial hike, with 2,593,000 board feet of loblolly and short leaf pine harvested from 1351 acres, plus 905 units of pulpwood, bringing in the more than sizable total of $92,909.27. The money was distributed as it had been before—25 percent to the counties and 75 percent to the Fish and Wildlife Service.

During all these timber operations, the wildlife populations showed steady and gratifying increases.

With the timber program at Piedmont well under way, the Fish and Wildlife Service began casting around for other refuge areas that would lend themselves to similar ventures. During the past ten years trees have been cultivated as important future crops on almost a score of wildlife sanctuaries from one end of the country to the other.

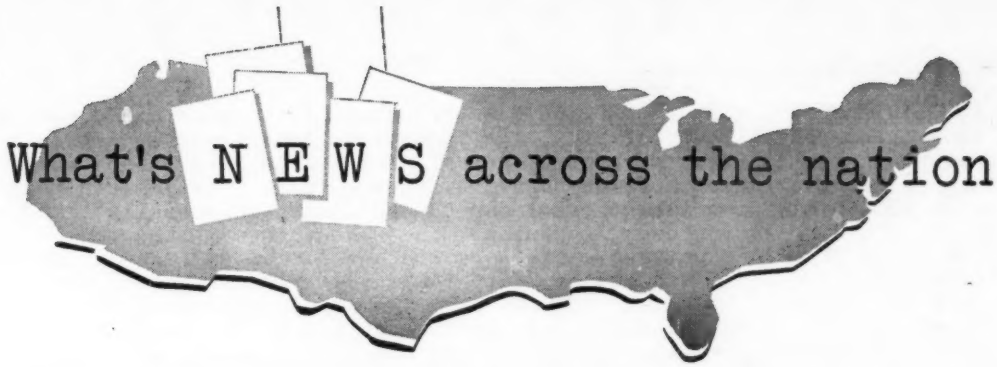
Among the important refuges in the south upon which timber programs are in progress are: Kentucky Woodlands in southwest Kentucky; Noxubee, in Mississippi; St. Marks, in Florida; White River in Arkansas; and Upper Mississippi, running from southern Illinois to Minnesota on both sides of the river.

Other refuge areas throughout the nation include: Little Pend Oreille, in eastern Washington; Moosehorn, in Maine; Necedah in Wisconsin; Seney in Michigan, and Tamarac in Minnesota.

What makes this new timber operation economically sound is the fact that it is spread over a wide area. If it were confined to a comparatively small section of the country, upsetting business repercussions might result from a localized "boom."

In addition to the loblolly and short leaf pine marketed at Piedmont, refuge areas are producing commercial quantities of aspen, ash, cedar, cottonwood, elm, gum, locust, oak and Christmas trees.

It would appear that the new timber program of the Fish and Wildlife Service is as varied in the matter of trees as it is in the matter of locations.



LLOYD PARTAIN, OF CURTIS PUBLISHING COMPANY, and Dr. S. T. Dana, of Michigan, presided at a plans meeting last month on "Utilization and Development of Land Resources," one of eight sections scheduled for Resources for the Future's Mid-Century Conference next month. Benton R. Cancell, vice president of Rhinelander Paper Company, will chair the subsection on "Timber and Wood Products." Other subsections in the section headed by Mr. Partain and Dean Dana are: Food and non-food fibres; wildlife; scenic, wilderness and other recreational areas; and watershed values. Members of the section steering committee include Dr. Murray Benedict, professor of agricultural economics, University of California; George Dean, state forester, Virginia; Paul A. Herbert, director, Division of Conservation, Michigan State College; Harold Wilm, associate dean, College of Forestry, New York State; R. C. Jacobson, Minnesota CIO Council; Waters Davis, president, National Association of Soil Conservation Districts.

RICE BARTON'S "CELLU-LETTER" REPORTS, "LOOK FOR MORE Alaska mills when the Ketchikan project has gone through some pioneering. While at present they are only talk, four more projects are dreamed for the Tongass National Forest." The newsletter states that Tongass Woodlands can support 400,000 tons of pulp annually on a self-perpetuating basis and that plant sites have been widely discussed for Sitka, Petersburg and Juneau for the manufacture of newsprint.

UNITED STATES TREASURY CHECKS TOTALLING $18,649,794 have been sent to 40 states and two territories in which national forests are located, the Department of Agriculture announced last month. The checks represent 25 percent of the receipts from timber sales, grazing permits, land-use permits and other uses of the national forests. Each state receives one-fourth of the money collected by the national forests located within its boundaries. The law providing for these payments to the states also earmarks the money for the benefit of public schools and public roads within the counties in which national forest land is situated. Thus, amounts vary from $33 for North Dakota to $6,029,382 in Oregon. Total receipts of the Forest Service for the year ended June 30 are the highest on record.

A NATIONAL PROFESSIONAL GROUP TO PROMOTE CONSERVATION education to be known as the Conservation Education Association was organized at Purdue University last month. It supersedes the National Committee on Policies in Conservation Education which was dissolved according to the new president, Dr. A. G. Peterson, president of the eastern Montana College of Education. Other officers of the new association are Dr. Howard Michaud, of Purdue University; Dr. Richard L. Weever, University of Michigan; and William Voight, of the Izaak Walton League.

A REPORT MADE TO THE AMERICAN INSTITUTE OF ARCHITECTS that forest growth is nearing a point of equilibrium with demand could mislead innocent bystanders into the unwarranted conclusion that the timber problem is as good as solved in the nation, the New York Times reports. Great advances have been made in recent years in sound forest management, in reforestation, in fire and insect control, in education, in development of tree farms, the Times continued. However, the last full-scale survey by the Forest Service on this subject revealed, among other things, that annual growth of sawtimber—35.3 billion board feet—contrasted with annual removal of sawtimber which was pegged at 53.9 billion board feet. In other words, 50 percent more sawtimber was annually being consumed than was being grown. While the gap between consumption and supply is narrowing, it is also true that the gap is dangerously far from closed, the Times concluded.

(Turn to next page)

PRIVATE AND STATE FOREST FIRE PROTECTION MEN throughout Washington and Oregon are rubbing their rabbit feet for luck, the Industrial Forestry Association reports. Not since man has kept records of forest fire losses have these two states had such a remarkably low acreage burned by forest fires. Unusual is the fact that lightning fires almost equal man-caused blazes. Generally, man-caused fires run nine to one over lightning. In Oregon, through the end of August, losses on state and private lands were 803 acres from 247 man-caused and 259 lightning fires. In Washington, only 740 acres had been burned through August from 652 fires, 40 percent of which were lightning-caused. Losses on Forest Service lands in the two-state region through August 31 totalled 720 acres from 773 fires, only 145 man-caused.

APPOINTMENT OF SHIRLEY W. ALLEN, FORMER PROFESSOR of forestry at Michigan to that state's Conservation Commission has been announced by Governor Williams. He succeeds Harold W. Glassen, of Lansing. Allen is past president of the Society of American Foresters and an active member of The American Forestry Association.

DeWITT "SWEDE" NELSON, STATE FORESTER OF CALIFORNIA, was recently selected by former Governor Earl Warren as director of California's Department of Natural Resources. He succeeds General Warren T. Hannum. Nelson served as chairman of the committee on forest protection at the recent Higgins Lake, Michigan, conference of The American Forestry Association.

THREE FORESTRY SCHOOLS IN THE NATION CELEBRATED "GOLDEN ANNIVERSARIES" this year, the most recent being the School of Natural Resources at the University of Michigan, at Ann Arbor. In celebrating the 50th anniversary of its forestry school, the university bestowed honorary doctorates upon Richard McArdle, chief, U.S. Forest Service; Randolph G. Pack, president of the Pack Forestry Foundation; Seth Edwin Gordon, director of the California Fish and Game Commission; and S. T. Dana, former dean of the School of Natural Resources, who was awarded an honorary doctor of laws degree. Dr. Dana had previously received a doctor of science degree from Yale University.

LET'S CLOSE UP THE NATIONAL PARKS, BERNARD DeVOTO says in the October issue of Harper's magazine. He reports that the National Park system is so assailed by political eddies and beset by financial troubles that we might as well close them up—at any rate, some of them—until we can handle them in a manner befitting our noblest resource. The crisis, DeVoto says, is now in sight: "Thirty cents here and $1.75 there will no longer keep the National Park system in operation."

GEORGE O. WHITE, STATE FORESTER OF MISSOURI, was elected president of the Association of State Foresters at their 31st annual meeting October 5-8 at Corbin, Kentucky. Other officers are Huxley Coulter, state forester of Florida, vice president, and W. S. Taber, state forester of Delaware, secretary-treasurer. George S. Spaur, state forester of Oregon, and George Dean, Virginia state forester and outgoing president of the association, were named to the executive committee. Both Dean and White were made honorary Kentucky "colonels." Principal speaker at the association's annual banquet was the Honorable Wilson W. Wyatt, prominent attorney and timberland owner.

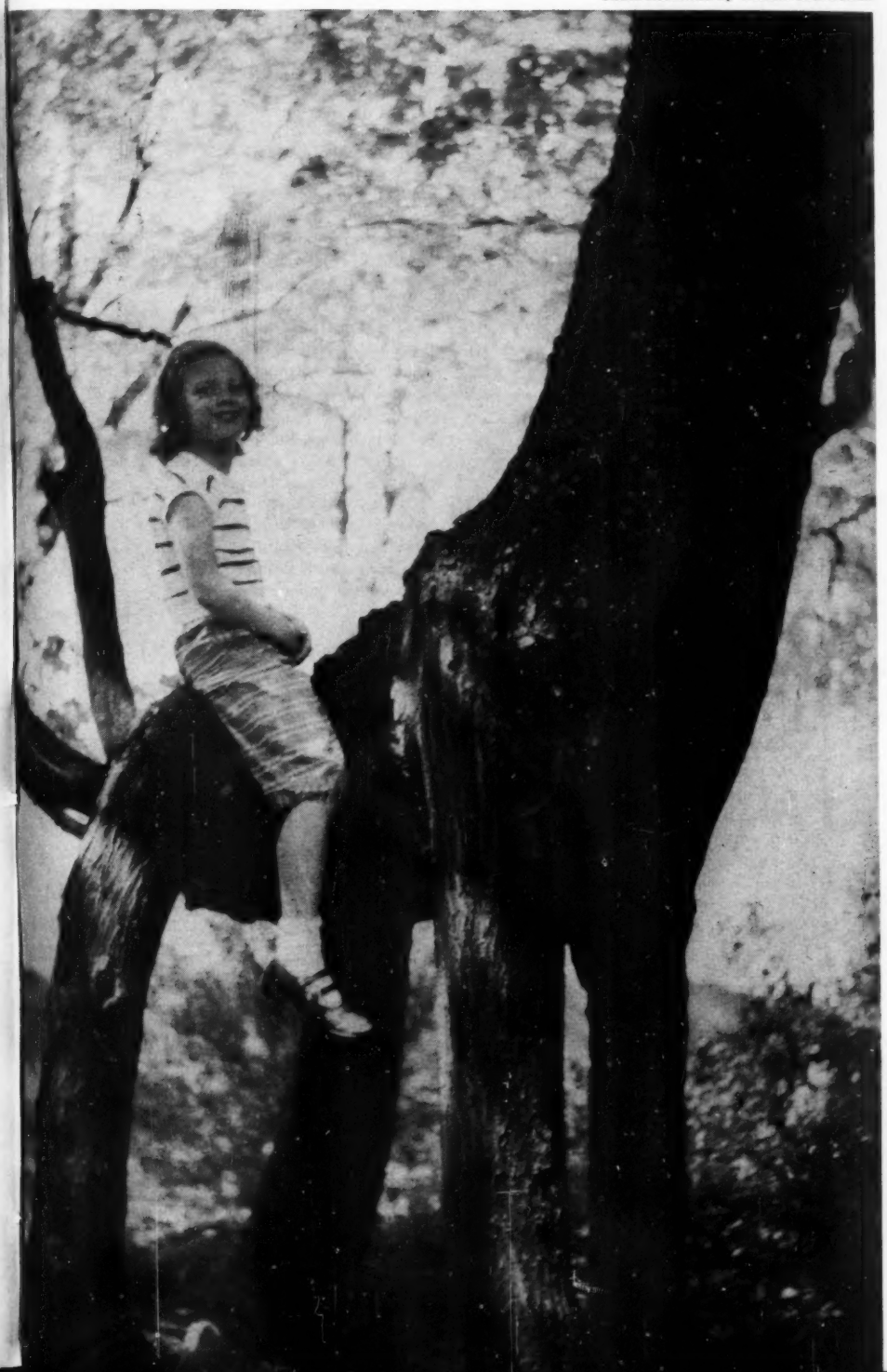
AS AMERICAN FORESTS WENT TO PRESS, ANNOUNCEMENT was received that Robert W. Sawyer, associated with the Bend, Oregon, Bulletin for four decades has retired as that paper's editor. Mr. Sawyer, an active member of the Board of Directors of the AFA, has been prominent in conservation work for many years. A native of Bangor, Maine, and a graduate of Harvard, Mr. Sawyer went west many years ago where he became one of the outstanding editors in the nation. "Mr. Sawyer's friends throughout Oregon recognize him as a great publisher and fine executive," commented Phil Brogan in a signed article in the October 1 Bulletin. "But his associates at the Bulletin have paid him an even greater compliment—they recognize him as a great reporter."

LYLE F. WATTS, FORMER CHIEF OF THE U. S. FOREST SERVICE, has been awarded an honorary doctor of science degree by Utah State Agricultural College, Logan, Utah. "As a public servant, Mr. Watts has devoted his professional life to the promotion of better management and use of our priceless heritage of forest and range and the multiple resources provided by them," Dean Lewis M. Turner, of the School of Forest, Range and Wildlife Management, said in his citation.

Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS *will pay $10.*

Photo submitted by William Brenneman



The young lady astride this "giraffe" might well imagine her lanky steed's about to gallop off across the veld in darkest Africa. It really won't, though. It's just a sugar maple near Hart, Michigan that couldn't decide whether to grow up to look like a tree

AMERICAN
Approved
PLAYGROUND EQUIPMENT

Unsurpassed in Design, Safety and Performance

● It's the *plus* factor that makes American the most respected name in Playground Equipment . . . *Plus* in design—American leads the field. . . . *Plus* in performance—*Approved* Equipment stronger, more ruggedly built to assure a lifetime of perfect repair-free service . . . *Plus* in safety—for American craftsmen are aware of their responsibility for the safety of your children. Thus, with American you receive far superior design and performance and unmatched safety.

WRITE FOR LITERATURE

AMERICAN
PLAYGROUND DEVICE CO.
ANDERSON, INDIANA U.S.A.
WORLD'S LARGEST MANUFACTURERS OF FINE PLAYGROUND & SWIMMING POOL EQUIPMENT

ADVERTISERS IN THIS ISSUE

American Forests — November, 1953

	PAGE
Abrams Aerial Survey Corporation	62
Aermotor Company	76
Allis-Chalmers Mfg. Co.	51
American-Marsh Pumps, Inc.	58
American Playground Device Company	83-96
American Tobacco Company, The	69
Austin-Western Company	48-49
Bango, Henry L.	81
Bartlett Manufacturing Co.	52
Beebe Brothers	83
Brule Valley Nurseries	89
Brushmaster Saw, Inc.	58
Canterbury, Nathan D.	80
Cards of Wood	78
Caterpillar Tractor Company	3-4th Cover
Chase Nursery Company	88
Chesapeake Corporation of Virginia	75
Coladonato Bros.	91
Columbia-Hudson Lumber Company	84
Columbia Veneer Company	87
Council Tool Company, The	90
Cranston, Keith	81
Crossett Companies, The	54
Cunningham Manufacturing Company	62
Darley & Company, W. S.	88
D. C. Engraving Company	56
Drost, Romola	78
Evergreen Nursery Co.	85
Fechheimer Brothers Company	72
Gaylord Container Corporation	71
Glatfelter Pulp Wood Company, The	72
Great Northern Paper Company	66
Gulf States Paper Corporation	79
Hale Fire Pump Company	90
Harodikes, Inc.	66
Herbst Brothers	72
Hester Plow Company, Inc.	74
Hoffco, Inc.	85
Hollingsworth & Whitney Company	87
Houghton Mifflin Company	77
Howerton Supply Company	81
I. E. L. Power Saws, Inc.	68
Ingersoll Steel Division	78
International Paper Co.	63
Johnson Lumber Company, C. D.	70
Keedwell & Elliott	81
Keene Forestry Associates	88
Keuffel & Esser	82
Kiefer and Quaile	81
Kimberly-Clark Corporation	7
Leupold & Stevens, Instruments, Inc.	79
Longview Fibre Company	85
Lowther Company, Harry A.	90
Mall Tool Company	53
Marathon Corporation	56
McCulloch Motors Corporation	2nd Cover
McGraw-Hill Book Company	8
Mead Sales Company, The	3rd Cover
Melin Meteorological Service	80
Meriam Company, L. W.	86
Meyer, William H.	81
Mill Engineering & Supply Company	70
Monumental Printing Company	77
Moran, E. C.	88
Mosinee Paper Mills Company	86
Musser Forests, Inc.	88-89
Nash Conservation Awards Committee	5
National Lumber Manufacturers Association	55
Neils Lumber Company, J.	92
Nelson Company, The	84
Niedner's Sons Company, Chas.	91
Northeast Forestry Service	80
Northern Tree Company	80
Nut Tree Nurseries	89
Oregon Trail Box Company	78
Oxford University Press	60
Pacific Marine Supply Company	83
Panama Pump Company	92
Pond & Moyer, Inc.	81
Potlatch Forests, Inc.	65
Prentiss & Carlisle Company	81
Puget Sound Pulp and Timber Company	76
Putney Nursery, Inc.	89
Radio Specialty Mfg. Company	57
Remington Arms Company, Inc.	4
Rhinelander Paper Company	64
Rich, Charles H.	80
Riegel Paper Corporation	78
Riteway Mfg. Company	91
Rockwell, Frank I.	81
Ronald Press Company, The	6
St. Paul & Tacoma Lumber Company	73
Sandhill Forestry Company	81
Sewall Company, James W.	81
Silva, Inc.	91
Simpson Logging Company	68
Smith & Company, D. B.	50
Southern Pulpwood Conservation Association	59
Southern Seed Company	89
Stainer, Julius	88
Stetson-Ross Company	77
Stevens, Raymond E.	80
Suncrest Evergreen Nurseries	88
Superior Magneto Corporation	78
Sutherland Paper Company	67
Tree Farmers, Inc.	80
Union Bag and Paper Corporation	61
Urania Lumber Company, The	82
Utility Tool and Body Company	88
Western Maine Forest Nursery Company	88
Weyerhaeuser Timber Company	1
Wheland Company, The	54
Wild Surveying Instruments Co.	60

THE MEAD SALES COMPANY
230 PARK AVENUE, NEW YORK 17, N. Y.
20 NORTH WACKER DRIVE, CHICAGO 6, ILL.

MEAD
pulp

DISTRIBUTORS OF WOOD PULP
BLEACHED AND UNBLEACHED
CHEMICAL AND MECHANICAL WOOD PULP

Paul Bunyan's sawmill on the Big Onion River ran at such high speed that it often produced more lumber and pulpwood than the market could stand. It had a reverse lever, however, that could send the sawdust, bark and planks back into trees ready for re-planting—the first reforestation program.

A reproduction of this incident from the fabulous life of Paul Bunyan—the forty-fourth of a series—will be sent on request. It will contain no advertising.

BURNING *and* COSTS ... *under control!*

Rayonier Inc. has about 400,000 acres of timber in the Nassau Forest near Becker, Florida. To prevent an excessive accumulation of inflammable growth, the company burns every two or three years. Key machines in its woods operation are eight Caterpillar Diesel Tractors—seven D4s and one D6. This D4, pulling a fire line plow, cuts a swath 5′ wide for fire control. "We're well satisfied with Caterpillar equipment," Forester Stuart H. Davis says. "We have one D4 about 10 years old. They're mighty tough machines."

Their toughness is one reason they keep costs down for you. They're built to stand up under punishment that sidelines less rugged machines. For example: track shoes are made of rolled steel, heat treated for long life. Sealed track rollers and idlers keep mud and dust out, and oil in, for longer wear. These and many other important details all add up to performance that pays off in *more* work with *less* down time at *lower* cost—not just when the machines are new, but year after year after year.

Your Caterpillar Dealer, with his store of genuine parts, is another factor in keeping costs down. If you need service, he answers your call—any time, anywhere—promptly. He'll be glad to give you complete *facts* about the big yellow machines. Phone him today—ask him to demonstrate on your toughest job!

Caterpillar Tractor Co., Peoria, Illinois.

CATERPILLAR*

* Both Cat and Caterpillar are registered trademarks—®

NAME THE DATE...
YOUR DEALER
WILL DEMONSTRATE